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The Craft of Tile-Making and Its Relation to Architecture

By J. H. DULLES ALLEN

"BEAUTY," Mr. Lethaby has said, "is not a question of mere shapes, but is the evidence of mind acting properly on material."* Thus, in any consideration of a craft product from a decorative viewpoint it is essential to include the raw material and its properties.

When on the dark mental horizon of savages there kindled the desire for self-expression in a primitive art, clay was the most responsive medium. In the earliest dawn of history we may truthfully picture the potter thumping his wet clay, for, although his is an humble craft, yet is it of ancient lineage.

Mr. Wallace, in his book on "How to Know Architecture," has accredited his subject with being "Man's most self-revealing record of his struggle upward from barbarism to the complex civilization of today."

A parallel in the case of clay-working may be pointed, for archæologists tell us that the introduction of pottery marks the transition of a race from a state of savagery to the next higher plane of barbarism. From shards of burnt clay we are able now to trace and mark the degree of civilization of prehistoric man.*

Clay has ever been a human democratic thing in the life of man; a vivid vehicle of expression, and history, profane and sacred is prolific in reference to it and teems with parables and stories of the intimate place held by clay in the minds of the people.†

In China or Japan,‡ in Persia or Peru, in Egypt, India, Greece, or Rome, in any and all civilizations we find clay playing an important part in the literature of the cuneiform brick inscriptions; in the baked-clay cylinders (from legal documents to laundry lists), the prayers of the kings

*Mr. W. R. Lethaby so defines beauty in a paper read before the Architectural Association, London, and quoted in the June number of the Journal.

*"So enduring indeed, that these crude products of the first potters, together with their fossil remains, form the most important records of prehistoric man."

Again: "The remains of pottery left by the prehistoric mound-builders and cliff-dwellers in America, for example, show that they had acquired quite a degree of skill and knowledge of the art."—The Wonders of Modern Science: H. S. Williams.

†There seems little doubt that in savagery clay-working was a "household industry," if such a term might be used. The man trapped and hunted, the woman made utensils in which to store and cook the quarry, as the Indian squaws at this time do. In fact, apropos of the present discussion of women entering business, it is rather surprising to consider how much work has been taken from them in times past.

‡"The Chinese and Japanese were making glazed pottery at least two thousand years before the secret of its manufacture was learned by Europeans."—Wonders of Modern Science.

and the prowess in arms of the people, the Chinese even made types of clay for printing, and we are told that architects once drew their plans on wet-clay slabs, while in the field of art we have, in antique sculptures, innumerable examples. Even in the superlative ancient statues much that we admire is not inherent in the medium of marble or bronze but is due to a quality lent by the fictile clay. The carved stone is often but a reproduction of the clay model. The inspiration was in sympathetic clay, not in the colder stone. That spark of the Divine—the creative impulse—in the great mind of the sculptor was felt and formed in terms of the subtle clay, and the thing from which he worked in cutting his marble was this baked-clay model.*

This thing called clay is not, therefore, to be lightly treated. It has held an honorable place in the art and industry of man since,

"Out of the deep and endless Universe
There came a greater mystery, a shape,
A something sad, inscrutable, august,—
One to confront the worlds and question them."†

When had the profession of architecture its inception? Some say at the time when the economic necessity arose for protecting the then sacred and always miraculous thing which we call fire.‡ The clay-working craft began before the discovery of fire, and when fire came into use it was employed not only to make a better building material, but also to produce the only refractory and fireproof building materials worthy of the name. The clay-worker so annealed the products of his hand in the fervid heat of fire, that they could afterward be used to curb and control its flame.

*It is interesting to note, in this connection, that in some instances the terra-cotta originals have withstood the test of time and come down to us in a better state of preservation than their copies in stone. *Vide*, Essays on the Art of Pheidias, Charles Waldstein.

†"Man:" Edwin Markham.

‡Encyclopedia Britannica.

So much, in fact, has been said and written of the ancient origin of clay-working that one is wont to associate it with the days of Omar, or, like Thoreau, to think of it half-laughingly as of biblical times, and so be surprised, as he was, to find it still practised in the neighborhood where one lives. Few realize the span of the craft; few recognize the part played by this old clay in the most recent evidence of man's material advance. Although one of the earliest building materials of primitive man, it yet remains and fills a peculiar demand in our modern plutocracy—in "fireproofing" the skyscrapers of our smoky, badly planned, overcrowded, and altogether uncivilized cities of the present era.

To electricity, the most awe-inspiring of modern transformations, the old craft supplies the insulators for surface, subway, and sub-river railways, and for lighting systems and the new developments of the high-tension power transmission lines.

Transportation in connection with the gas engine is heralded to revolutionize the face of the earth, and the Wrights and the Zeppelins employ small but integral parts of clay. Even the birth of aseptic surgery made new demands upon this old craft, and modern ideas of sanitation include burnt-clay products.

If "Architecture is properly distinguished from mere building by the presence of the decorative or artistic element,"* that new material we call concrete (of which the dome of the Parthenon and parts of the palaces of prehistoric Mayas were built), it is not altogether satisfactory unless in the treatment of the decorations color be introduced in the form of burnt clay. It is this esthetic quality of clay—a redeeming feature in this age of industrial and material emphasis—which should interest us most.

Although in our own country, as early as 1647, tiles were being made in New England, and in 1849 "tyle-makers" were liv-

*Century Dictionary.

ing well in Virginia,* and although hand-made roofing tile and some occasional decorative specimens seem to have been made from time to time in Colonial days, yet it was not until the Victorian era that tiles in our country were seriously considered as a form of decoration.

At that time the demand upon our own country's potteries (of which there were a number) was largely for crockery, pots, jugs, money-banks, and clay pipes, and the decorative tiles were imported chiefly from England.

A Philadelphia potter, who was engaged in making octagonal spittoons for an appreciative market, attempted tiles in the following manner: "By cutting these [the spittoons] horizontally in half he produced an ornamental pattern of novel effect which he utilized as wall tiles by forming a border of them around the ceiling of his office."† Apparently, however, they were not found in demand.

At the time of the Centennial Exhibition in Philadelphia, in 1876, English tiles were being imported extensively. Not only did the architect employ them, but a fine sympathy existed between the tile-maker, with his new machinery for stamping, pressing, and decorating tiles,‡ and the maker of furniture, with his wood-turning lathe and ingenious jig-saw.

These Victorian tiles form a vivid detail in the memories which some of us have of our childhood's environment; we recall not only fireplace facings, but furniture, small cabinets (without which we are told no "parlor" of the time was complete, and no bride quite happy), and sometimes a bed made with a roll of tiles let into the headboard.

The Centennial Exhibition gave a great impulse to the manufacture of tiles, and from that time on tile-works were springing up all over the United States. It was an era of industrial development, and in the turmoil and sweat of competition the mechanical strides were marvelous. The combination of exact machinery and the nice findings of the factory chemist raised the manufacture of burnt-clay products to an exactness of result and a precision of detail and evenness of finish which the satisfied manufacturer termed "Perfection."

The colors of the tiles were sometimes attractive, but more often ugly, and the designs were usually executed with little feeling for, or realization of, the possibilities of the material. The architects of that day were equal to the situation, however, and contrived to employ tiles of the same design in a chimney-piece, to be viewed from a few feet, and in the facade of the building to be viewed from fifty feet.

Toward the end of the nineteenth century the profession began to frown upon the slick glazed brick and tile of our fathers, and instituted unorthodox ideas. The wild period of decoration began. Shingles were laid in "wave" motives; the inebriate mason laid stone and brick in undulating lines with here and there projecting units, which must have facilitated the work of the "second-story man." Sometimes roughened mortar was studded with circular bits of stained glass largely resembling the bottoms of bottles.

The pendulum was swinging back, and the building world ran riot in "effect," in revolt against the former "finish." The impressionists were laying on paint with a palette-knife, and sculptors were wont to feel their sketch-studies to be monuments to genius, as in some instances they undoubtedly were. The manufacturers of shingle-tiles were surprised to find their

*The Pottery and Porcelain of the United States: Edwin Atlee Barber.

†The Pottery and Porcelain of the United States: Edwin Atlee Barber.

‡"The method employed in making embossed or relief tiles is that which was patented by Mr. Richard Prosser, in England, in 1840, for making buttons, and shortly after applied by Mr. J. M. Blashfield to the manufacture of tiles. It is called the 'dust' process, which consists in slightly moistening the dry, powdered clay and subjecting it to great pressure in dies containing the design to be impressed upon them."—The Pottery and Porcelain of the United States: Edwin Atlee Barber.

"seconds" in demand, and the makers of "soft-mud" brick were pleased to see their product growing in popularity. Plants which had been making "re-pressed" brick began to turn their attention to something "rougher," and succeeded.

In all materials there was a striving for texture, roughness, and crudeness. As with art and architecture so it was with tiles.

The cruder forms were in demand. Classic marble columns rose from floors tiled like Italian kitchens. Chaste Colonial mantel framed large misshapen boulder-like tiles. Carefully studied Gothic was sometimes paved with quite impossible crudities. Textures suitable to the garden and those capable of a fine effect at a distance were employed in intimate areas, while on concrete and stucco facades there appeared queer spots and dots resembling facial blemishes.

Having tried the higher-finished mechanical product, and having revolted and experimented with texture, the crude, and the bizarre, we are now profiting by the lessons that may be learned from both extremes. The pendulum is again swinging back, and we are now entering upon a more rational era in the use of burnt-clay products. Had it not been for the experiments of Monet and the impressionists, painting today would not possess light and atmosphere to the same degree, and from their clay sculptors have learned new uses for its plastic qualities, while the younger ones are returning to more decorative treatments of their subjects. Thus the craze for the crude in tiles has taught us certain uses for textures in decoration. In those areas far from the observer, where a bold treatment is essential for effect, craftsmen are now employing a texture which will produce the desired result at this distance. In the more intimate places, where a more refined treatment is becoming, they do not forget the work of the world that has gone before; the superlative oriental creations and the processes and developments which Europe and our own country have founded upon them.

We are now returning to the more rational attitude and are neither attempting miniatures with a Whistlerian brush-stroke nor mural decorations in the minute scale of a Meizan.

The craze for antiques in the time of Michelangelo is said to have so tried his temper that he buried one of his statuettes in the garden, and permitted it to remain under the benign influence of certain chemicals incident to the cultivation of the soil, until the surface of the marble had assumed a wonderful "patina of time." The story adds that he then unearthed it, and through the kind offices of a third party contrived to dispose of it for a round sum to a wealthy gentleman who did not think much of the work of modern sculptors, but was convinced that that of the ancients was superb. The Michelangelos of today are no doubt tempted now and then to resort to the old trick to meet the old demand.

The craze for antiques is with us yet, and we all know a modern house is not to the liking of the wealthy modern unless it is medieval in character or of some period far removed from our own time. The "Dead Hand in Architecture," as Claude Bragdon so aptly terms it,* is still present in a great deal of our recent work. It is a natural result of our architectural history, and is more or less due to the fact that it is far easier to design something "attractive" which will appeal to the taste of the average person, by employing the genius of the dead, than to meet modern conditions and frankly treat the electric lights, telephones, bathroom fixtures, elevators, and all the insistent paraphernalia of our life today and all that goes to make the habitation (whether a private dwelling a hotel or a hospital) factors in the efficiency and sanitation of a place in which

*The Dead Hand in Architecture: Claude Bragdon, in The Brickbuilder, July, 1914.

A Tile Decoration in Landscape

sane people want to live and rear sane children. The profession has largely avoided the issue, and, like Michelangelo, has metaphorically produced a "patina of time" by submitting the drawings and designs to a treatment of dead ideas.

As has been said, there are signs of a different mental attitude. A few architects are daring to be Daniels. Their creations are not startling—only good-looking and thoroughly sane. The medieval, which they realize has no place in the home life, is a natural reversion, but it is decadent and dead.

With these men tiles become a means not of producing weird, unbalanced debauches, but rather a sane medium for introducing form and color which are extremely decorative in surface, quality and finish, form and durability, and also which are clean and can easily be kept so. Our need today is not for medieval effect of soot and smut. That is acquired over-night in most of our centers of population. The thing we most require is materials in decoration which are non-absorbent, sanitary, and can be easily cleaned. It has not been difficult to meet these practical conditions in the bathroom or operating-room; but it has been difficult, until recently, to meet these conditions and still have the places attractive in color and arrangement of design.

Ruskin has held that one is warranted in looking to old things with a view of producing soft lines and soft shades, but we must bear in mind that the old crafstmen were doing the best they could to meet all the conditions of their problems with the means then at their disposal. If we turn to them for inspiration, and employ their processes, it would seem incumbent upon us to be guarded against an affectation of texture and to reproduce, rather, the textures of their processes.

Consider for a moment the conditions which are imposed upon the maker of tiles. The manufacturer of large quantities of material tends to follow the lines of least resistance—to standardize his product. For obvious commercial reasons, his plant and output are confined to rather narrowly defined processes. It is customary for the tile-maker to select one or two types of ware which he will produce. For illustration we will say, one type of glaze, either matt or bright, and along with this a "line" of plain unglazed tiles in colors. This enables the whole output to be divided into two general classes which are readily standardized. "Factory systems" may be installed, cost systems, motion-study, and all the other modern ideas which make the plant and the employees spell that business kismet, "efficiency."

But the craftsman resents being compelled "for business reasons" to employ such a limited medium of expression. He must use many processes, and in one small panel may find it advantageous to use more processes than all the large plants in all their per-ton-per-minute product combined. In that portion of his work where it is possible the craftsman may exercise great diligence and economy, and all the system consistent with intelligent employees; but the product cannot be priced so low as the per-thousand-per-minute. Manifestly then to make a living wage for his employees, the product of their minds and hands must be worth the difference in cost to the *architect and his client.*

The client is often impatient, and rather wishes he could buy his house as he buys his automobile, and has, as a rule, no time for "trifles." The architect naturally reflects this speed mania, and yet it is to him the craftsman must look for appreciation. The client cannot be informed upon details, and if the product of the craftsman is worth the difference, it resolves itself in the architect's *appreciation of that difference.*

This then, I take it, is the essence of the present epoch of burnt clay as a decora-

tive medium in these United States: The architect's attitude should be one of appreciation of the work as the product of craftsmen, rather than as so much manufactured material. Decorations of such a character, when dug up by some archæologist of the future, will reveal the fact that this was not entirely a commercial age, and that the architect was not interested alone in the production of "mere shapes," but was encouraging those workers in clay whose minds were endeavoring to "act properly" on their materials.

Where the decorations are of sufficient importance to warrant it, let the craftsman work with the architect. He has his hands in the clay and the colors and will prepare his own designs for such places and under such conditions as the architect may elect, to whom, of course, is reserved the right of criticism and the power to veto.*

The first chapter of, or it may be the introduction to, the history of this epoch has already been written, not by one hand, but by the sympathetic coöperation of a few of the architects and their craftsmen, and the work is well under way.

*Mr. Cram in his superlative plea for the craftsman delivered before the Fourth Annual Convention of the American Federation of Arts, said: "Now it is the manifest duty of the architect to search out these individual craftsmen, and to bring them into alliance with himself. You will note that I speak of an 'alliance,' for this is almost the crux of the whole matter; whoever the craftsman is he must work with and not for the architect, although the latter must exercise a general oversight over everything and form, in a sense, the court of last resort."

Again: "Of course, there are at present very few men who can be trusted implicitly, but there are many who have, or show promise of, actual genius, and such men should be encouraged and given the widest possible latitude. They will repay this confidence tenfold, and considerable guidance, linked with confidence and opportunity, will give surprising results. I should like to suggest, therefore, that a kind of 'white list' be compiled and published, and added to from time to time, of those craftsmen who have shown ability and promise; that it be given the widest publicity amongst architects, and that they should consider themselves bound in honor to go to these men, and work with them, rather than over them, in preference to the more august and widely heralded concerns that commend themselves rather by their financial than their artistic capital."

From what they have thus far set down we may fancy some of the possibilities of the next chapter. In connection with the architecture of our country, frequent mention is made of the varied climatic conditions. If these hold, as some assert, great promise of our future building, the tile craftsmen are prepared with their knowledge of, and ability in, the processes of the past and present, to evolve color and form to complement the work of the future. It is apparent that the American people are becoming more sensitive to color. The somber tones of the forefathers have given place to a more colorful life. As yet this is but dimly reflected in our architecture, but it is at least significant.*

There is no medium equal in color possibilities to the varied palette offered in ceramics. The logical means of introducing color in architecture is with burnt clay. No other medium is comparable, in its palette, durability, or adaptability. Tile craftsmen of today offer the wealth of color of all the ages—the Egyptian green glaze, the Old Blue and Gold of China, a Persian blue in modulated turquoise, the Gothic underglazes, and the majolica of Italy, France, and Spain, together with the iridescent lusters of the priceless specimens of long-buried antique glass. The gamut of the spectrum is provided in the vivid hues and richness of jewels and precious metals.

These are offered by craftsmen in varied ways—in brilliant and semi-glaze, in opaque-tin enamels painted by hand, in the soft tones of pastel, and in alluring lusters, in combinations of textures and processes, which, though employed with care and sparingly, give an illimitable palette.

In form there are to be found tiles in

*In this connection there comes to mind the expositions of an epochal character, which reflected the public eye—the Centennial, to which reference has been made, and the World's Fair at Chicago. These both mark epochs in American architecture. Now as we read of the San Francisco preparations, the elaborate introduction of color may mark another epoch.

modeled surface, in low relief, in high relief, in Egyptian relief, and incised outlines; the dusty archives of antiquity have been mined and dug for forgotten examples. This has resulted not only in replicas of the old specimens, but in well-studied designs of original conception. In large units we have terra-cotta, not turned out by the ton, but executed with the same personal interest which characterized the earlier work; mosaics in small tesseræ and in natural form, in which gold, silver, platinum, and bronze are introduced to offset the colors of the glazes; the bowl-like ornaments resembling the earlier Italian, in which a play of shadow forms a complement to the color and design; decorations for pools and fountains, brilliant and scintillating under the water or reflected in it.

The increasing demand for color as a relief to the monotone of the exterior of many buildings has led the craftsman to devote himself particularly to the use of tile in this connection.

The Greeks and Egyptians introduced color in pigments through their carved marble and stone work, although in our climate paints are too perishable to be employed in this manner. Today the architect is offered color for this purpose in the products of the kilns, to be inlaid in the stone as a decorative spot of color, or in areas where the marble is carved the design is thrown into relief and color introduced in the background by inlaying glazed units either in small tesseræ of rectangular shapes or to conform to the curves and lines of the carving.

In these United States it has been said that there is as great an opportunity for architectural triumphs as in any time or clime the world has ever known. We have a wealth of demand and a wealth of natural resources. We have indigenous materials of great merit, while the facilities of transportation place at our hands the rich findings of the mines and quarries of the whole earth.

The blame in the past has been placed upon the lack of competent craftsmen.

Today craftsmen in glass, metal and marble, in ceramics and wood, are knocking at the doors of the architect. Sometimes they are welcome. Sometimes they find the general contractor has covered the entire operation; that life is too short for the architect to bother with the details of decoration, or to make an "allowance" so that a craftsmen can undertake them. Is not the burden of proof gradually shifting to the shoulders of the architect? Is he not becoming the defendant?

Carlyle has said: "Two men I honor and no third: first, the toil-worn craftsman that with earth-made implement conquers the earth and makes her man's; second, the inspired thinker, who with Heaven-made implement conquers Heaven for us, and he that must toil outwardly for the lowest of man's wants is also toiling inwardly for the highest."

Now the worker in clay may be held to represent the "toil-worn craftsman;" he at least conquers some of the earth and makes it man's, and in many instances the architect certainly plays the part of the "inspired thinker." Is it not incumbent upon both to establish a more sympathetic relation?

The Ancient Abbey of St. Eloi

By JEAN-PAUL ALAUX

NINETY-FIVE kilometres beyond Arras, there stood, until a few weeks ago, the two celebrated towers of the Abbey of Mont St. Eloi. These towers were the sole and venerated vestiges of an old Abbey founded by St. Eloi, the councillor, famous in the song of "Le bon roi Dagobert." The Abbey, at the time of its foundation in 635, was only a modest oratory, which Saint Fulbert, after the Norman Invasion in 881, enlarged and raised to the dignity of a rich and beautiful monastery.

Rebuilt in 1417, by Vindicien Roussel, the Abbey of Mont St. Eloi was, during the Middle Ages and under the Renaissance, one of the most renowned intellectual centers in France. Besides extensive agricultural work (the Abbey owned estates and had seigniorial rights in sixty-five communes), the monks devoted themselves to *belles lettres* and to learned archæological research, and the buildings erected by them constituted a magnificent pile. I take from an old description the following interesting lines: "Let us knock at the portal of the Abbey which has its entrance on the Village Public Square. A monk wearing the black habit of a novice opens to us. As we are armed with influential recommendations to the Abbot, he gives us a profound bow, and we pass with him through the peristyle which serves as an entrance. We are now ready to visit the monastery. Before us are the Abbot's quarters. The principal part of the building opens on the Court and comprises the private apartments, the kitchens, the stables, coachhouses, and other buildings. This structure dates from 1728. Then in succession follow the chauffoir*, the billiard-room and the sacristy;

THE TOWERS OF ST. ELOI, AFTER THE BOMBARDMENT
From a sketch drawn on the scene for the Journal, by Jean-Paul Alaux

*Warming-room for pilgrims.

then the cloister, permeated by an agreeable freshness, whence, over three terraces, one gets a magnificent view of the plains and of Arras, whose belfry looms against the horizon.

"At this moment the monks and the regular canons pass through the cloister, on their way to the church, wearing the violet cassock with its red buttons and buttonholes, rochet, and biretta; in the choir they will put on a black cope, as it is winter; in summer an amice of the same color replaces the cope.

"The refectory is vast and airy; it is paved with black-and-white marble, and the walls are paneled in oak, exquisitely carved, and embellished with magnificent paintings. The Abbot's table, raised on a platform, dominates all the others. A stairway gives access to the library, where are preserved precious archives and manuscripts of inestimable value.

"Retracing our steps, we visit the common dormitory which has replaced the earlier austere cells. Through a covered passage one can reach the church, which is under the patronage of St. Peter and St. Paul. This church is adorned with glass windows, and contains in its treasury the relics of St. John the Baptist, inclosed in an antique reliquary. A forged-iron grill, fifty feet wide, extends across the entrance. We follow it, and reach the exterior wall which, continuing along the rue de l'Abbaye, ends in the Chaussèe Brunhaut. Flower-gardens interspersed with pools beautify the grounds. A windmill serves to grind the grain which the farm produces; beyond the farm stretch the meadows, orchards and vineyards of the Abbey."

Such, in the eighteenth century, was this beautiful Abbey. Sold as national property at the time of the Revolution, the monks dispersed, there remained only the two towers as witnesses of the former prosperity. These towers were venerated as precious relics of the past.

For a month, in spite of the daily bombardment, the big guns did not seem able to find the target, and the towers suffered little; but, on the morning of the 11th and 12th of November, it was our unhappy fate to be mute and heartbroken spectators of their destruction. The shells, describing a high parabola, announced their coming by a characteristic whistling sound. Posted at a street corner, I saw a shell burst with a red flash, aureoled by a gigantic plume of black smoke. Then a terrible crash. It was the noise of the explosion. At that moment, for prudence's sake, it was necessary to hug the wall, as a hail of iron and stones fell on houses and streets. What a clatter of broken tiles and copings!

I followed, hour by hour, this work of destruction. I am able to send only a hastily made sketch of the Towers, after the bombardment; they are now but cracked and tottering walls. An enormous mass of broken stones lies at the foot of the remains of the monument. The landscape, for a distance of 500 meters, appears to be covered with frost;—it is the dust of another beautiful work, the ashes of centuries of toil, devotion, and priceless tradition,—all laid low in an hour.

The Society of Beaux Arts Architects

On account of the war in Europe and the impossibility of carrying on any satisfactory studies in Paris, it has been decided by the Paris Prize Committee to hold no competitions for the Paris Prize during the season 1914–1915.

WILLIAM EMERSON, *Chairman*,
Paris Prize Committee, 281 Fifth Ave., New York City.

Rheims Cathedral

By LOYS BRACHET, A.D.G.
Member du Jury de la Société des Beaux-Arts

NO! Rheims Cathedral, in spite of its heroic sufferings, in spite of the horror of its devastation, has so far not been mortally wounded. But its lofty roofs are burned; its towering belfries set on fire, its chimes reduced to a mass of molten metal.

Its doors gape wide upon the rich portals, now barred with the twisted iron work, mutely protesting the piles of cinders and the heaped fragments of mullions. The admirable glass is broken.

But with its apse flanked by the transepts and its two great towers, the grand basilica still lifts itself firmly against the sky, prouder and nobler than ever!

The great skeleton of the edifice, with its towering piers and multitude of arches is still intact; but what lamentable consternation seems to emanate from the decorative sculpture! With what hideous anguish does one contemplate the ruined statues!

These were the especial portions of the Cathedral upon which the bombardment fell with the most severity. If the shells had attained the marvelous sanctuary in its vital parts, it would have been a crushing death. In all the French mediæval architecture, such as Rheims, each member plays its part, all the forces working to distribute the weights on the outside of the edifice, in order to establish the equilibrium of the whole.

If this wise equilibrium, which permits the height and airiness of the interior, had been destroyed as though it were a *chateau de cartes*, the whole constructive system, based upon the neutralization of oblique thrusts would have completely fallen.

This work of art, this basilica of radiant beauty, has been miraculously saved, even though by the daring of its principle of design it was exposed, by the bombardment, to immediate and irreparable destruction,—this wondrous structure which has defied the centuries of tranquil fervor.

If no one longer knows how to build such an edifice we know how to study its restoration. The most urgent need is to provide a temporary roof as a protection against the rain, snow, and ice.

Thanks to the number of casts of the statues which we possess, we can perhaps repair the damage in a manner which will not too greatly offend the eye. The roof construction, which dated from the sixteenth century, was not one of the important features. Executed without any general idea, and lacking the supervision of a master-workman, it replaced a much better construction which had been previously burned through the carelessness of a workman.

Today, still standing in spite of the infernal experience through which it has passed, every stone of Rheims seems enveloped in a more tragic beauty, as seen through the shroud of its ruins.

Thou shouldst be eternal, Rheims, like the race which built thee seven centuries ago, as an emblem of the logic, the faith, and the beauty of France.

RHEIMS.—After the lithograph by Monthelier

The Mergelynck Museum at Ypres

FIERCELY attacked and as fiercely defended, battle-scarred and devastated, the city of Ypres has attained a degree of publicity which ought to do much toward familiarizing the world with the position it once occupied among the great communities of the Middle Ages. Rarely visited by tourists, the charm of its quiet streets and peaceful squares is known only to the few who have learned to treasure the memory of days spent among that delightful group of towns in old Flanders, of which Ypres, Oudenarde, Courtrai, and Furnes form the most prominent part.

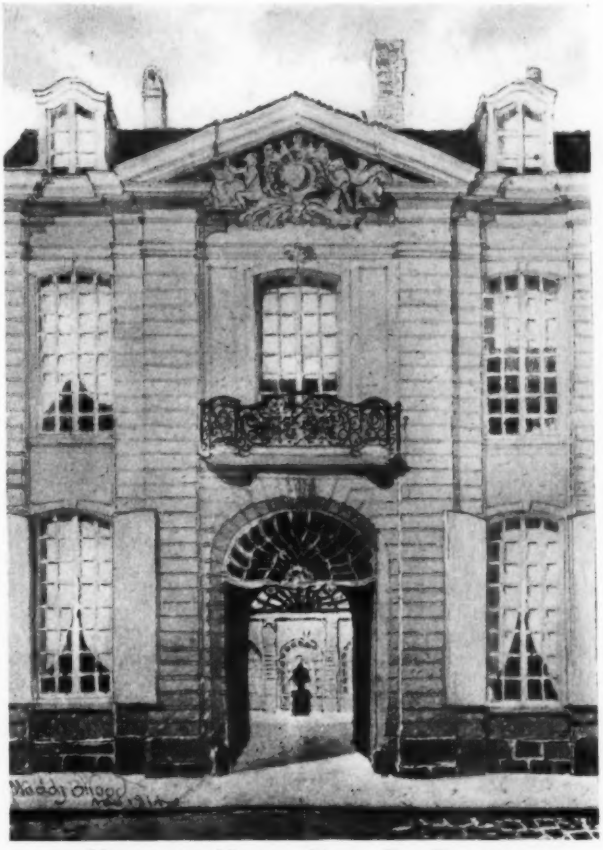
At one time Ypres was a city of some 200,000 inhabitants. The product of its looms was scattered to the farthermost ends of the world, for at that period the ships of Flemish commerce rode upon the highways of all seas. Up to the time of the beginning of the present war, this one-time metropolis had dwindled to a population of scarcely 12,000. We are still without definite information as to the amount of destruction wrought upon its citizens and their homes and public buildings, but it is reported that the great Cloth Hall, one of the most interesting relics of mediæval Belgium, has been irreparably damaged. In view of the fate which has overtaken so many of the Belgian towns and cities up to the present time, it seems almost useless to hope that Ypres has been spared the almost complete destruction which is one of the saddest and most deplorable factors of the whole frightful spectacle.

Among the few who remember the charms of Ypres there must be some to whom the thought of the destruction of the Musée Mergelynck and the treasures it so well housed will come with the sense of a keen personal loss. I do not know whether Monsieur Arthur Mergelynck is still alive. It is some years since last I saw him and had the pleasure of wandering in his com-

THE MERGELYNCK MUSEUM, YPRES

pany through the rooms which were his greatest joy, and to whose arrangement and preservation he had devoted a great part of his personal fortune and years of patient endeavor. If he is still alive, I grieve to think of the anguish he must have endured during the last two months. It scarcely seems possible that he could have been able to remove any of his treasures to a place of safety. Even were that possible, the ruin of the home of his ancestors would be a loss which never could be replaced and, altogether, his share of the common suffering and anguish must have been rendered many times acute to his generous and sensitive nature.

It was in 1892 that the opportunity came for re-purchasing the house which had been built by his ancestors in 1774–76, and no time was lost in consummating the act. Through various changes in fortune, the property had passed out of the family, but the house was admirably preserved. The plans were from the hands of a celebrated architect of Lille, Thomas Francois Joseph Gombert, and the house had been built with that degree of care and skill which was still the tradition among the workmen of the day.



MERGELYNCK MUSEUM, YPRES—THE ENTRANCE

When Monsieur Mergelynck bought the property, his purpose was of far greater significance than at first seemed apparent to those who knew his plans—a purpose which is said to have been the means of causing many other museums to take thought as to the manner of housing some of their treasures. I remember certain portions of the museum at Zurich particularly; also the Musée Plantin at Antwerp, although I do not know the dates of the present arrangement of the rooms. The Carnavalet at Paris is also another evidence which is often cited, as having been influenced by this little museum at Ypres. Monsieur Mergelynck conceived the idea of converting his ancestral house into a museum to be devoted exclusively to the periods of Louis XV and Louis XVI. The whole property was to be consecrated to the purpose with a view of so placing every article that an atmosphere of daily use should pervade every nook and corner, from the entrance-hall to the garret. It was to be a genuine home of the period, without any of the "show" characteristics of an ordinary

museum. How well he succeeded may be attested by those who have had the good fortune to wander through the halls and rooms. It is true that at times some of the effects seemed to be a little exaggerated, but the museum was daily undergoing a process of selection and elimination, which made it difficult wholly to preserve the illusion of a house of the eighteenth century, with the inhabitants still in residence.

What has happened to this house and its treasures? I know not. The newspapers and magazines speak of the destruction of the Cloth Hall and the Hotel de Ville, but not a word does one find about the Mergelynck Museum.—C. H. W.

MERGELYNCK MUSEUM, YPRES—THE COURT

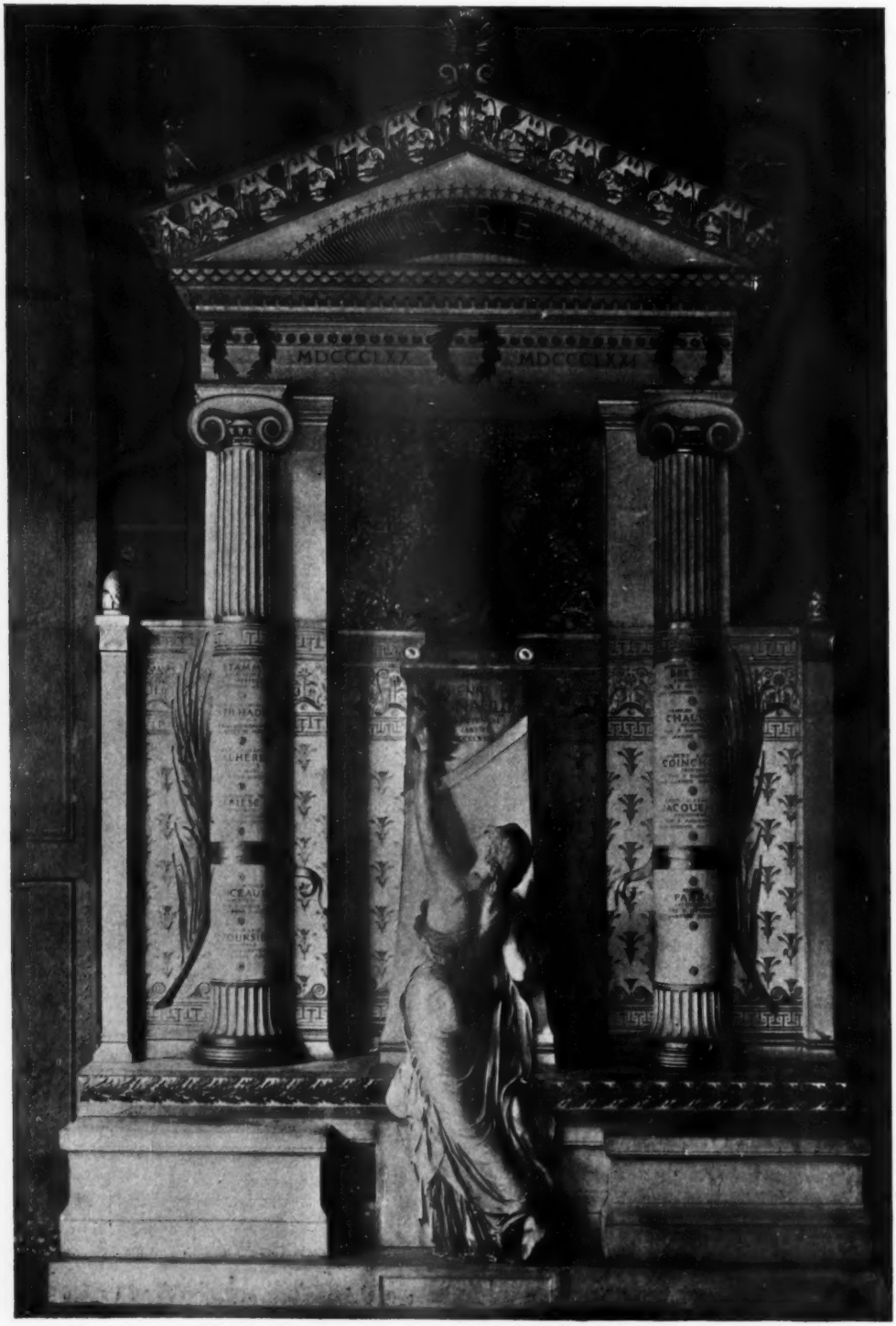
Jean Louis Pascal—Institute Gold Medalist, 1913

By WALTER COOK, (*F*)

FOR the fourth time in its history, the American Institute of Architects has awarded its Gold Medal of Honor. The recipient of the medal, by unanimous vote of the Convention of 1913, was the well-known French architect, Monsieur Jean Louis Pascal.

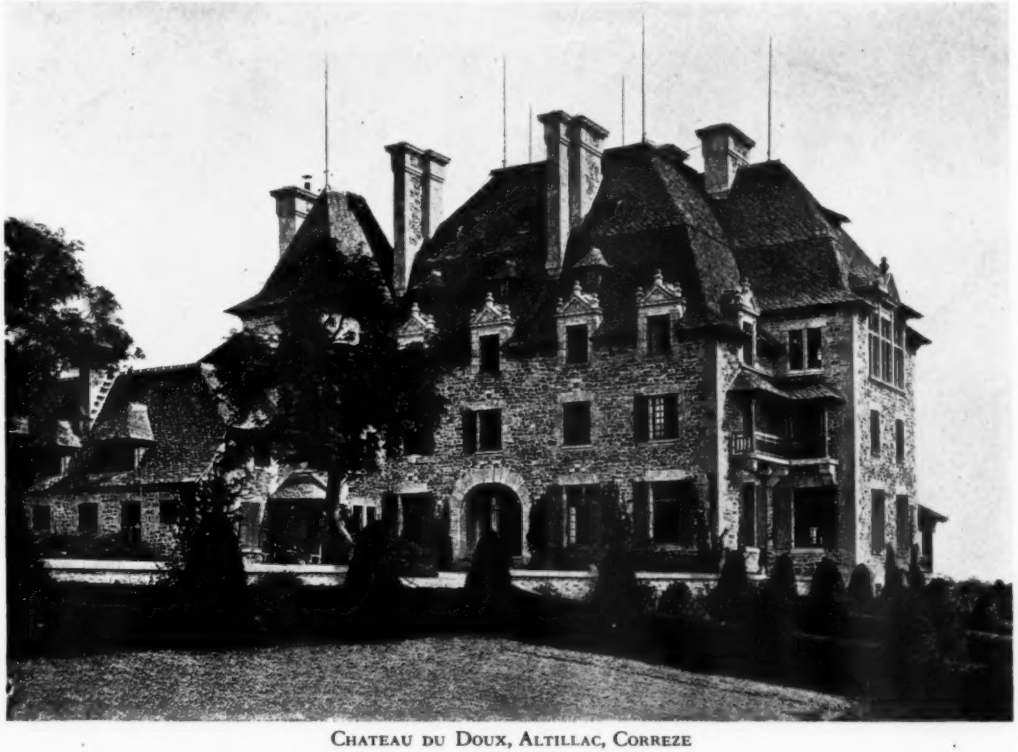
In conferring the highest honor of the Institute upon one of the most distinguished French architects of the present time, whose absence from the occasion was deeply regretted, we have not only honored him but we are honoring his country as well, and acknowledging with grateful feelings the vast debt we are under to her in so many ways, and most especially the architectural debt.

It is impossible to overestimate this, and each time that we revisit that wonderful land we are anew impressed. Our old and distinguished fellow-member, the late Mr. Russell Sturgis, wrote years ago, in his article on French architecture, "A day's walk from one small town to another may be through a country whose architectural remains deserve a month's study." In fact, France is the richest country of Europe in buildings of value to the western



MONUMENT TO REGNAULT IN THE ECOLE DES BEAUX-ARTS

student, and later than the time of the fall of the Roman Imperial Dominion. In the eleventh century the lead is still more decided; for the Gothic art, beginning about 1150, is entirely French in the strictest sense, all the other European lands having taken their primary and most of their subsequent impulses from the French Royal Domain. The later and the



CHATEAU DU DOUX, ALTILLAC, CORREZE

last Gothic, that of the fifteenth century, which the French writers treat as the earliest work of the Renaissance, is still the first of its time in Europe in interest and value; and when, at the beginning of the sixteenth century, the classical feeling coming from Italy had really gained a foothold in the North, the resulting styles (those of Louis XII, Francois I, and Henry II) are the most beautiful result of the new movement, and are beautiful and suggestive in a peculiar way. In like manner the later styles, those which followed the pacification of France under Henry IV, long remained the models of Europe in a special sense; for in France this style of the Decadence is preserved from lifelessness and hopeless chill, and the attempts at revival under Louis XV and Louis XVI are, each in its own way, full of the interest which attaches to bold experiments guided by good taste."

This is, in part only, what Mr. Sturgis wrote; and to all of us France is a vast architectural museum, extending over its whole length and breadth, full of interest, full of beauty and inspiration; and we offer up our most fervent prayers that all this may be preserved for us and for those that

FACULTE DE MEDECINE, BORDEAUX

come after us, and that future generations may see, as we have seen, all these glorious monuments of the past,—some of which, alas! have already been sacrificed in the present war.

But in addition to the many works with which they have enriched their country and the world, our French brethren have rendered a very special service to their art, and especially to our own land. They have all unselfishly given their time and their talent to the education of the students of architecture, among whom have been so many of our countrymen. In my own day M. Pascal was, I think, the youngest of all the patrons of ateliers, and a great number of his pupils have been Americans, with whose work we are well acquainted. Indeed the *building where we gathered for the presentation ceremony is, in part, the work of one of his† pupils, who, after the years spent among us, has now returned to France to serve his native land. And these pupils of his are the first to recognize the debt they owe him—as I myself do to my own beloved patron, M. Vaudremer, whose lamented death was announced to us but a few months ago.

*The Pan-American Union, Washington, D. C.

†Professor Paul P. Cret, of the University of Pennsylvania, now with the French army.

INSTITUTE GOLD MEDALIST, 1913

It would be easy for me to write at length of the tremendous influence which the Ecole des Beaux-Arts has exercised in this country, but most of us are aware of this influence and recognize how it has revolutionized the ideas of architectural education in this country. And let us not forget that all this is due to France and to its teaching; and that if, as we believe, this revolution in architectural instruction has been a beneficent one, with its special element of individual teaching in design, it is to the self-sacrificing efforts of M. Pascal and his fellows that this is due; and the old traditions have been preserved and continued by M. Pascal and those of his time, who have produced, in our day, many works that are the worthy successors of those of bygone days. I will not attempt to do more than mention the numerous buildings and monuments which we owe to his genius, nor to enumerate the many honors which he has received from his own and from foreign lands.

M. Pascal's architectural career has been a long and distinguished one. Born in 1837, he was a pupil of Gilbert and Questel at the Ecole des Beaux-Arts. At an early age he was associated with Garnier in the construction of the Paris Opera House. In 1866 he won the Grand Prix de Rome, and during the years which he spent at the Villa Medici, he made many important studies and restorations, among which may be mentioned the restoration of the Palatine and studies of the Villa Medici, of the Palazzo Farnese, the Palazzo Strozzi, and the cloister of Santa Maria Novella in Florence, the cathedrals of Pisa and of Salerno. His architectural

BIBLIOTHEQUE NATIONALE, PARIS

BIBLIOTHEQUE NATIONALE, PARIS

work since has been most important and varied, including, as it does, many monuments—that of Victor Hugo, of Garnier, and of Michelet, all in Paris, of Carnot in Bordeaux, of Colonel d'Argy in the church of St. Louis des Francais at Rome, and others, all in collaboration with noted sculptors. His work in the Bibliothèque Nationale is very important and has been the occupation of years of his life. Numerous important dwellings have been designed by him both in city and country—the Villa Renonard at Pau, the Château du Doux in the Department of the Corrèze the Château of Maubuisson, the Hotel Bougereau. Then there is the very important School of Medicine at Bordeaux and the School of Pharmacy in the same city, the latter still uncompleted.

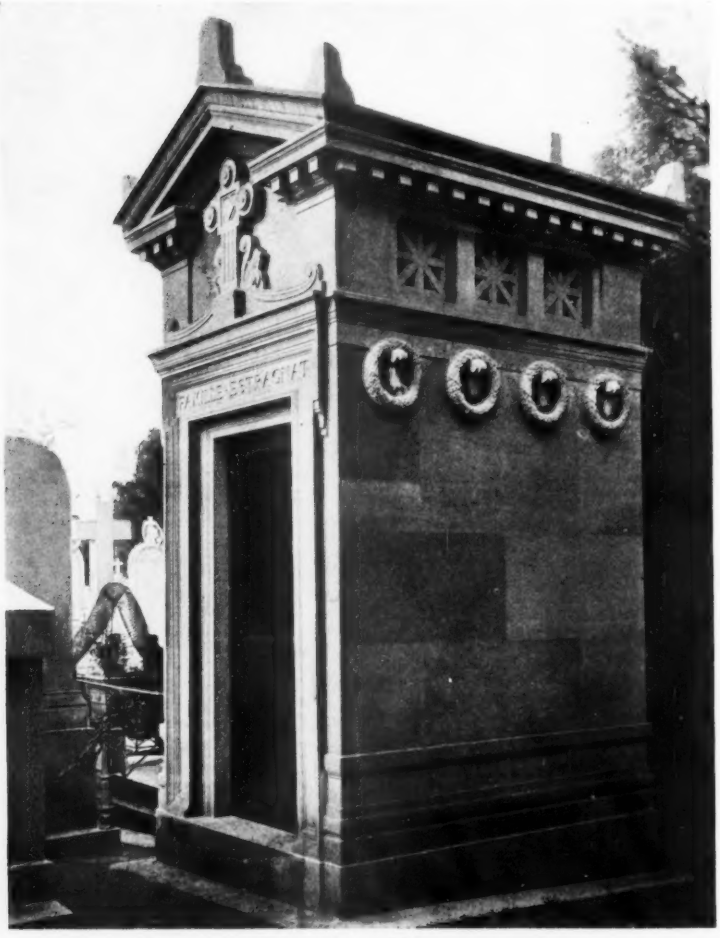
He has also been a member of many important architectural juries in important competitions for public work. Among these the famous competition for the University of California is of especial interest to us. On that occasion M. Pascal made his only visit to the United States; and those of us who were fortunate enough to meet him at that time, conceived a most charming impression of his personality and his talent.

During forty years of his life he has devoted a good part of his time to the teaching of architecture; when he was but thirty-five years of age he became the head of one of the largest and most important ateliers of the Ecole des Beaux Arts, succeeding his own master, Questel. Among his many pupils have been a goodly number of our own compatriots, who are the first to recognize the obligation they are under to him for the inspiration which he gave them.

It would be too long to enumerate all the important positions which he has occupied and all the honors which he has received. He is a Commander of the Legion of Honour, Officier de l'Instruction Publique, Member of the Institute (Academy of Fine Arts), Chevalier of the Order of Sant Iago (Portugal), Architect of the French Government, Vice-President of the Conseil Général des Batiments Civils—

MEMORIAL TO MICHELET, PERE LACHAISE, PARIS

the list could be enlarged almost indefinitely. And by what seems a happy coincidence, almost at the same moment that the American Institute of Architects conferred upon him its Medal of Honor, we learned that the Royal Institute of British Architects had awarded to him the Gold Medal of that Society. It is certainly most gratifying to know that in the two great English-speaking countries of the world, the distinguished services which he has rendered to our art have been simultaneously recognized in such an exceptional way.



MAUSOLEUM, CEMETERY OF MONTPARNASSE, PARIS

Book Reviews

Monumental Classic Architecture in Great Britain and Ireland during the 18th and 19th Centuries.

By A. E. Richardson, F.R.I.B.A. 111 pages of descriptive text, illustrated from photographs and measured drawings. 60 plates. 135 text illustrations. London: Batsford. New York: Scribners. $33.50, net.

A work on British classic monumental architecture which cuts out Jones and Wren plays obviously under a heavy handicap. At first blush it might suggest Hamlet without Hamlet. But a closer look into this book is all that is needed to show the futility of attempting to appraise the achievements of the classic tradition in England solely on the evidence of its early masterpieces. We have not been accustomed to regard Georgian and Victorian architecture as distinguished for inspiration; but Mr. Richardson has more than succeeded in making out a case for it. He has gathered together and clearly, even brilliantly, brought out, by plates and text, a representative group of buildings which, to say the least, are incontrovertible evidences of sound feeling as contrasted with much of the Continental work during the same period; and in several instances the designs are fully worthy to rank with the best contemporary work produced anywhere. If England did not succeed, as did France, in maturing a style, or a succession of styles, during the eighteenth century, this may be attributed to other conditions than the lack of architects of talent, or failure on their part to understand intellectually, and to feel emotionally, the classic spirit.

Certainly, from a pictorial standpoint, the volume lacks neither interest nor dignity. Both qualities are emphasized by the interpretative grouping of the works into four phases—the Roman Palladian, the Græco-Roman, the Greek, and the neo-Grec and Italian. These categories may be accepted as fairly satisfactory, for the sake of convenience, with the proviso that they are not to be taken as at all absolute. The phases overlap and intermingle, as is bound to be the case in art history, though here and there it is possible to identify a landmark, a beginning, or an end. To each phase a separate chapter of historical and critical text is devoted.

In the first group the names of Robert and James Adam are among those which have attained at least a temporary or partial "immortality," as the authors of a manner almost deserving to be called a style. There are indications at hand of a resuscitation of interest in it nowadays. But the Adam style, to grant it that title, was at its best in interiors, which are not included here, obviously as being non-monumental. Except for their excessively delicate decorative work, it is questionable if the name would be more familiar to us than are many of the other wholly worthy but far from inspired practitioners of the time. In most respects the chief power of the Roman-Palladian phase was Sir William Chambers, whose work is best represented by Somerset House. If any work of the eighteenth century in England deserves the name of masterpiece, it is this fine pile, not all of which, of course, comes from Chambers' hand, though what is not his own follows faithfully his beginnings. Even here there is no indication of imaginative power of the first rank; but there is abundant of the second. His obligation to French architecture generally, and in particular to Gabriel and his *chef d'œuvres* at the Place de la Concorde, which were building about the same time, is frankly acknowledged by the author. On the whole, there are few structures in Europe of similar date and of equal importance which are better conceived or more successfully studied than Somerset House. The plates here, as elsewhere, are admirably chosen. The drawings in plan and elevation are especially welcome. Grateful mention is called for, too, of the delightful group of buildings in Dublin, by James Gandon and Thomas Cooley. The gem of the Palladian group, however, in imaginative originality and character, is the long-since destroyed Newgate prison, by George Dance. This is as unique and original as anything English architecture has achieved, and Dance's name will have a permanent place in architectural history because of it.

The chapter on the Græco-Roman phase, following the influence of Stuart and Revett, is enriched by a notably good series of plates of the Bank of England, by Sir John Soane and others. It is the highest praise that one can give to such a building, to say that it fully looks the part it plays. It looks bank, it feels bank, it is bank. I do not know where else an equally satisfactory showing of it is to be found.

Sir Robert Smirke's British Museum has the place of honor in the third group, illustrating the Greek phase; an uninspired but able and "correct" work. The mid-nineteenth Century was the age of coldly respectable architecture; architecture from which emotion has been rigorous y excluded. Of this type a larger number of noteworthy examples are to be found in Edinburgh than elsewhere—at the hands of William Henry Playfair (Scottish National Gallery) and Thomas Hamilton (High School). The most charming but least monumental aspect, and

surely the least Greek, of this phase is illustrated by the romantic Dorchester House, London, by Lewis Vulliamy, a name to remember ever kindly. It is interesting, in these war times, to note the reason for the predominence of Greek influence over the Roman at this juncture. "The tremendous upheaval occasioned by the Napoleonic wars . . . . had practically excluded Englishmen from intercourse with the Continent," says Mr. Richardson, on page 54. "Barred from France and Italy, English artists traveled by the long sea route to Athens and the seaports of Asia Minor, to augment their previous researches by a scientific study of the arts of Greece." How is the present war destined to influence the art of America?

To say that the neo-Grec was as inevitable and in many instances as unsuccessful in England as in France is to say much. Its contribution to progress was largely in the nature of wild oats. Get it out of the system as soon as possible, and with as few constitutional ravages as possible. Doubtless these experiments had to be tried. We indeed owe a debt of gratitude to Prof. Charles Robert Cockerell, among others, for having tried them in England and definitely found them waiting, once for all. They cleared the atmosphere, and paved the way to the real culmination, in which Cockerell himself amply shared. Indeed, it is precisely the most inspired and adventurous spirits who lift anchor for these hardy voyages of discovery. One of the chief ornaments of this mid-nineteenth century architecture in the Italian rather than the neo-Grec sub-phase was Sir Charles Barry. He found a way fairly to bring Italy into London, in such buildings as Bridgewater House and the Reform Club, for instance. But the crowning genius of the century was Harvey Lonsdale Elmes. The finest building of latter-day England, and one of England's greatest, ancient or modern, is St. George's Hall, Liverpool. Here, at last, at the very crest of the wave, is inspiration. And then, death. There are few regrets more poignant, in the history of art, than Elmes' loss at thirty-four, with only this one great building, one of the greatest, to his credit, and even this still in process of design. But his soul had already gone out into it. It breathes his spirit. And Professor Cockerell, who carried it through to completion, deserves an almost equal measure of credit. He rose in this masterpiece above the level of all his other work. He has purified his manner of eccentricities. He has built on sure foundations. This is, of a verity, "real architecture," such as, in Mr. Richardson's words, used in another connection (page 28), "requires to be molten in the imagination of the designer; to be ready, as it were, to emerge from such a crucible in one instantaneous gush. Then it attains to such power and significance as to leave an impression, on the mind of all beholders, of a perfect coherent and indivisible whole." Mr. Richardson seems to include St. George's Hall within the category of neo-Grec. Such would not be my classification of it. It stands forth as a masterpiece, *sui generis*, which it is unnecessary to label otherwise than Classic.

It is gratifying to find so many genuinely successful achievements of nineteenth-century British Architecture put together in this way. Georgian work holds its own exceedingly well; and Victorian even better. Remember that it was against this admirable sort of thing that the mid-century enthusiasm for Gothic protested. Remember what Victorian Gothic was, which "came in" as a substitute for it! On the whole, even granting fullest credit to Inigo Jones and to Sir Christopher Wren as the establishers of the tradition, the showing of the rest of the school is perhaps in its cumulative effect quite as impressive as their own work. Moreover, England by extraordinary good fortune almost wholly escaped infection from the subtile virus of the baroque, which so deeply impregnated continental work. The subject of the present book, therefore, while in one sense, for the most part, a gleaning of seconds, is, from another point of view, of first-class character, and proves even more conclusively than the masters themselves how generally adaptable and useful the classic style is.

Any book which contains adequate representation of St. George's Hall, the Bank of England, and Somerset House, is of distinguished value, especially in the absence elsewhere of really satisfactory presentation of them. The works of Gotch, Blomfield, Belcher and Macartney and others left a lacuna in the history of British classic architecture which called for a corresponding work on Georgian and Victorian. The want is well filled in Mr. Richardson's book, which covers a time not before adequately dealt with, and which was well deserving of treatment, as has already been pointed out. It is now possible to review the whole period, from the earliest manifestations of Renaissance feeling to our own day, and to approach present design with a clear understanding of its origins.

Architectural style the book has, most decidedly, by reason of its illustrations. And the value of a book of this sort as a part of the working library is largely derived from its illustrations rather than from its text, in all but the rarest cases. How many architects read their architectural books? They know them by their pictures, not their text. There is a story current that Stanford White once declared that he never had read an architectural book and never would! I do not vouch for the truth of the story, but when told to architects, I notice that it usually touches a responsive chord. Here, however, is a book whose text is distinctly worth reading.

Written in an agreeable flowing style, it gives enough of the human side to take the edge off mere technical discussion, though to my taste something more about the architects as men would be welcome. Must the human element of the architect always remain unknown? We know many other artists, why so few architects?

One of the best parts of the book is the introductory chapter. This, with the conclusion, coördinates the theme. It is in these portions of the book that the author lets himself go. We are permitted to glimpse his own personality, his likes and dislikes. His outline of the Italian Renaissance, and its transmission northward, is not quite luminous perhaps. But he displays admirable judgment elsewhere, and he has said excellently certain things which it is well for us all to remember. Let me quote:

"The monumental manner in architecture is so closely allied to the academic style as to be indivisible. It impresses the mind at once with one great idea; it is rarely found in architecture merely picturesque or respected solely for its historic associations, neither does it rely for its effect on elegant ornamentation." (Page 6). "The monumental in architecture, as in Nature, is universal, it is eternal, and it is true." (Page 9). "It is in the detachment and sequestration of one object from another, in the pursuit of one definite trend of thought rather than a preference for many, that the finer distinctions of style inhere. Thus, the great periods in art form self-contained circles, each reacting the one on the other, each within its circumference inclosing the rise, the culmination and the decline of a certain phase of art." (Page 105.) "Herein lies one of the greatest of the many difficulties which beset modern architects, the supreme and imaginative handling of material to express concrete character. Practical architecture can show only by indeterminate hints or by vague symbol the opinion and purpose intended by the architect. If he be a scholar, he is careful to consider the little facts which insure his building being conceived in a grammatical key. Should he be a stylist, he faithfully follows the tenets of the phase of art in which he is working; but the successful impartation of character implies more than the foregoing; in brief, it means suitability of conception." (Page 107.) These excerpts will give some idea of the tone of the book.

To sum up. The volume is a sumptuous one. Paper, typography, and illustrations are all of the best. The period covered is a worthy one. There is a wealth of historic information. The method of the book is excellent; so excellent, and its application so successful, as to make this almost a model of what such a work ought to be. Altogether, it should find a welcome in every architect's library.

JOHN GALEN HOWARD (*F*).

Small Country Houses—Their Repair and Enlargement.

By Lawrence Weaver. $5, net. Country Life, London. Chas. Scribner's Sons, New York.

The closing sentence of the introduction to "Small Country Houses—their Repair and Enlargement," by Lawrence Weaver, is as follows: "The purpose of the following chapters is to show how pitfalls may be avoided under wise professional guidance, and how in many ways fabrics of various ages up to five centuries may be given a new lease of life, with due regard to the claims both of antiquity and of present usefulness."

This purpose is interesting, well conceived, and happily carried out in many plans and illustrations of forty ancient buildings, shown before and after restoration and enlargement. The charm and sincerity of English domestic architecture could not be better revealed. Alterations such as these demand all the resources of the architect's command, skill amidst vexing limitations, love for the old simplicity and sympathy for the new perplexing requirements of modern life. The results here shown are a convincing revelation, where none is needed, of the ability of English architects to reflect and portray the polished ease and beauty of their country life.

In studying these houses in their simple and appropriate setting of walks, flower-gardens, and terraces, one has a sense of fitness and completeness, as of a picture beautifully framed. The architect's work did not stop with the design of the house; that was but the starting-point. The house had yet to be tied to mother earth by enduring bonds of gardens, terraces, walks, shrubs, and perishable flowers. Then only would crudeness be obliterated, beauty attained, the work finished and turned over to the softening touch of time.

And here the English architects have left little for time to do.

WALTER D. BLAIR (*M*).

Vitruvius: The Ten Books on Architecture.

Translated by Morris H. Morgan, Ph.D., L.L.D. $3.50, net. Harvard University Press, Cambridge, Mass.

The late Mr. Russell Sturgis, when asked his opinion of the essential requirements for the education of an architect, replied, "An architect should know more of any subject than anyone else." This opinion was doubtless subject to certain qualifications, but that a similar idea of the comprehensive nature of an architect's education has prevailed for many centuries is apparent from a reading of "The Ten Books of Architecture," by Vitruvius, to the translation of which the late Professor Morris H. Morgan devoted the last years of his life.

The subject in itself is of sufficient interest to reach a large public, but the translation gives the reader much more than a merely correct reproduction of the author's ideas. So imbued is it with the spirit of the original, that Vitruvius' every characteristic is faithfully expressed, and a human quality of immense interest to the lay reader thereby added. As Professor Howard so justly says in his preface, "Vitruvius was not a great literary personage, ambitious as he was to appear in that character. He has all the marks of one unused to composition, to whom writing is a painful task."

But amongst the pages of technical advice as to the selection of site and materials for a house, there are to be found invaluable glimpses of the daily life of the time of Augustus, in which Vitruvius lived. As we pass from pertinent, even though somewhat pompous, paragraphs on the foundations of city walls, through interesting chapters on the orders of architecture, the acoustics of a theater-site, to the best means of procuring and delivering an adequate water-supply, we renew our admiration for the thoroughness with which these ancient peoples insured the possession of all those requisites for a safe and healthy life that we, in our time and generation, regard as evidences of the higher civilization of our own century.

Another characteristic of this older civilization is the apparent lack of any specialization in the different branches of architecture. What Vitruvius outlines as the requirements of a well-trained architect encompass the entire field, indicating that such knowledge was expected of all architects. In our times, such a general preparation, if found at all, is unusual, attention being centered upon the accumulation of specialized information in one of the many fields. Architects might well take this characteristic of their predecessors' training to heart, and no thoughtful reader can fail to be impressed by the individual earnestness and thoroughness of the original writer, as well as by the vividly personal interpretation of the translator.

The illustrations selected by Professor H. Langford Warren are appropriate and well placed.

WILLIAM EMERSON (*M*).

In Memoriam

JAMES J. EGAN, (*F*)

ADMITTED TO THE INSTITUTE, 1908

ADMITTED TO FELLOWSHIP IN 1913

DIED AT CHICAGO, DECEMBER 2, 1914

James J. Egan was born in Cork, Ireland, in 1839. At sixteen years of age he entered Queen's College, Cork, graduating at the age of twenty. Shortly afterward he came to New York, where he continued the study of architecture under Clinton & Russell, the elder Potter and James Duckworth. Just prior to the Chicago fire of 1871 he came to Chicago and commenced the practice of Architecture, which was continued until July 6, 1914, when failing health compelled his retirement. Mr. Egan in his many years of practice earned a reputation as enviable as his modesty was pronounced.

CHARLES H. PRINDEVILLE.

The Forum

To THE JOURNAL:

In the Journal for November I note with interest a discussion of methods of filing manufacturers' literature, and, after reading the suggested classifications thereof, I submit below, as suggestions for such a standard classification, one which has been used in this office for several years for all specification data and bulletins. All such having information pertaining to specifications are filed according to the below classification, which is arranged in the order in which various sub-divisions of the specifications are written. It will be noted that in most of the sub-divisions room has been provided for expansion by the inclusion of other trades.

1. *General Contractor's Work.*
   - 11. Description of Competitive Drawings.
   - 12. Outline Specifications.
   - 13. Proposals.
   - 14. Contracts.
   - 15. General Conditions.
   - 16. Preliminary Work.
   - 17. Temporary Work.
   - 18.
   - 19.
2. *Site Work, Etc.*
   - 21. Moving and Underpinning.
   - 22. Wrecking and Demolition.
   - 23. Excavation and Grading.
   - 24. Roads and Pavements.
   - 25. Land Drainage.
   - 26. Sewage and Garbage Disposal.
   - 27. Well-Sinking and Water-Supply.
   - 28. Planting and Gardening.
   - 29. Piling and Bulkheads.
3. *Rough Masonry.*
   - 31. Masons' Work and Materials.
   - 32. Concrete and Reinforcement.
   - 33. Stone Masonry.
   - 34. Cut Stone, Natural and Manufactured.
   - 35. Brickwork.
   - 36. Terra-Cotta, Structural.
   - 37. Terra-Cotta, Ornamental and Faience.
   - 38. Damp- and Waterproofing.
   - 39.
4. *Finished Masonry, Etc.*
   - 41. Plaster Block.
   - 42. Furring and Lathing.
   - 43. Plastering and Stucco Work.
   - 44. Paving.
   - 45. Cork Tiling.
   - 46. Tiling.
   - 47. Terrazzo.
   - 48. Interior Slate, Marble, and Scagliola.
   - 49.
5. *Metal Work, Etc.*
   - 51. Miscellaneous Metal.
   - 52. Vaults.
   - 53. Structural Metal.
   - 54. Art Metal.
   - 55. Metal Sash, Doors and Trim.
   - 56. Screens.
   - 57. Weather-Strips.
   - 58. Roofing and Sheet Metal.
   - 59. Hardware.
6. *Woodwork, Etc.*
   - 61. Timber.
   - 62. Carpentry.
   - 63. Millwork.
   - 64. Stair-Building.
   - 65. Cabinet Work.
   - 66. Flooring.
   - 67. Glazing.
   - 68. Painting and Decorating.
   - 69.
7. *Mechanical.*
   - 71. Heating and Ventilating.
   - 72. Steam-Power Plant.
   - 73. Plumbing.
   - 74. Gas Fitting and Generating.
   - 75. Refrigeration.
   - 76. Hydraulic Elevators.
   - 77.
   - 78.
   - 79.
8. *Electrical.*
   - 81. Electric Wiring.
   - 82. Lighting Fixtures.
   - 83. Bell-Hanging.
   - 84. Clockwork.
   - 85. Elevators (Electric and Hand).
   - 86. Mechanical Cleaning.
   - 87. Mechanical Carrier.
   - 88.
   - 89.
9. *Miscellaneous.*
   - 91. Auxiliary Fire Apparatus.
   - 92. Wood Furniture.
   - 93. Metal Furniture.
   - 94. Upholstery.
   - 95. Furnishings.
   - 96.
   - 97.
   - 98.
   - 99.

Also arranged according to this classification are filed 4- by 6-inch cards, containing various specification paragraphs from which selections are made, corrected, and given to the stenographer for transcribing into the specification as written. The various paragraphed cards are numbered with the general division number, and then sub-divided consecutively for each part. This aids the office boy in properly filing the cards after specifications have been proof-read.

CLARENCE W. BRAZER.

Housing and Town Planning

Housing Reform in France

By CAROL ARONOVICI, Ph. D.

The intensive concentration of French culture in the large cities, and the political influence which they seem to have exerted in shaping the destiny of the French Republic, stimulated a rural exodus which soon found its expression in the city slum. From the point of view of political power and control of the social life of France, the cities seem to have constituted themselves as a *collective aristocracy*, which took the place of the old hereditary aristocratic family that held sway before the Revolution.

The evolution of urban culture, art, and industry was coextensive with the growth in intensity of the housing problem. The tendency toward gregarious life was expressed, not alone in the exodus toward the city, but in the social literature of the times, as exemplified by St. Simon and Fourier.

The industrial revolution of the middle of the nineteenth century, with its sweep of organizing propaganda, further stimulated the urbanizing of the population of France, and added to the already serious overcrowding of the centers of population.

Detailed analyses of the causes of the rural exodus of France and of Europe as a whole are legion; but such analyses are beyond the scope of this article.

The movement for housing reform in France, as we find it today, is based upon a large number of scientific investigations which have been carried into the most intricate manifestations of the housing problem and its remotest causes.

The housing movement is not in the hands of a few housing reformers without broad social training and experience. The savant and the statesman, the sanitarian and the demographer, the manufacturer and the engineer, have combined to give housing reform the broad scope which it embodies.

Although the first effort to improve the housing conditions in France dates back to 1810, when a sanitary code of some importance was provided, the first epoch-making effort in the direction of improving the homes of the workers was made in 1835, by Koechlin, a manufacturer and Mayor of Mulhausen, which was at the time French territory.

The thirty-five houses built by Koechlin were so successfully rented, and made such an attractive appearance with their little gardens, that in 1851 Jean Dolfus, at the time Mayor of Mulhausen, organized the *"Mülbausen Society of Workmen's Cities,"* and thus the first step in the direction of garden cities for the working people was launched. With a capital of 355,000 francs and a subvention of 300,000 francs from the government, the stockholders were able to build homes which were rented on the basis of a 4 per cent net dividend. While we are not certain whether the phrase "4 per cent and philanthropy" originated in France, it is hardly to be doubted that this rate led others to adopt it as fair and practical. The project was so successful that, by the end of 1908, a total of 1,309 houses had been built and sold to the individual owners.

The success of this enterprise did not escape criticism, and Levasseur points out the fact that one-half the present owners are not the original purchasers. Paul Leroy-Beaulieu expresses in the following terms this criticism of the tendency to increase home ownership:

"The question of workingmen's homes raises delicate problems, and it is not always safe to push workers into owning the homes they occupy. In the very large cities, where there are many diverse industries, and where they could not all be affected at one time, the acquisition of homes by workers has no disadvantages, because they can always sell them and get their money back. In the smaller cities, on the contrary, which depend upon a single industry, it frequently happens that a financial crisis faces the worker, and he is compelled to leave permanently. If the crisis is intense, and if it affects materially the local industry, something that is not out of the ordinary, the population may decrease one-third or one-half, and the workingmen's homes cannot be sold."

Among the industrial villages of importance Creusot and Noisiel should be mentioned. Creusot has about 1,200 homes which rent for from 1.25 to 8 francs per week. The rental rates are fixed according to efficiency and length of time in the employ of the company. The company places at the disposal of the workers funds for the construction of individual homes in accordance with approved plans.

From 1837 to 1904 this company made loans amounting to 4,262,114 francs, distributed among 3,860 workers. This same company built at Champagne-sur-Seine, a community representing an investment of 4,000,000 francs and containing both individual and tenement homes.

In 1874 a chocolate factory (Menier) built an industrial community, in which the rental rates

were fixed at 150 francs per annum. This community was established more or less along the lines of Creusot.

The mining corporations of Lens and Lievin built 4,000 and 3,000 homes respectively, intended for the accommodation of their workers. To these more important industrial villages may be added a number of smaller ones, which were intended as a means of overcoming the problem of securing an adequate labor supply outside of the congested districts. Among these communities may be cited Petit-Bourg, Baccarat, Blanzy, Anzin, Mame, and others.

The railroad companies have frequently faced the problem of housing their employees in the localities where the labor is especially needed. In order to meet this need some of the companies have undertaken the construction of these necessary homes. Other companies, like the Paris-Lyon-Mediterranée and the Compagnie D'Orleans, offer free land. The southern railroads have adopted the policy of loaning money for building purposes.

The influence of the industrial cities and villages in France was of great international significance and pointed the way for other countries. The motive back of the French industrial community was quite different from that of the English garden-city movement, as it was stimulated by specific housing needs arising from the necessity of housing the workers away from large cities and within reach of the industry. The English movement was stimulated by similar industrial conditions upon a background of idealism which was lacking in France. The results accomplished clearly show the difference in point of view between the two movements.

Passing from industrial housing to the philanthropic agencies engaged in housing reform, mention should be made of an investigation carried on by Villerme* in 1840, and which brought before the French people the grave situation presented by the housing of the poor in the larger cities. The activities which ensued from this revelation of housing evils may be grouped in two classes, namely, the work of the strictly charitable agencies, and the limited dividend agencies. A number of the latter type use the limited dividend to perpetuate and extend the work. While the charitable work was recognized as an absolute necessity in some quarters of Paris, Lille, and other cities, its efficiency as a means of abolishing crowding and unsanitary conditions has frequently been called into question. Among the organizations providing housing facilities on a limited dividend basis the Mulhausen Society must first be mentioned. The Society of Workingmen's Homes at Passy-Auteuil and the Cheap Homes Association of Seine should not be overlooked. Similar organizations may be found in Reims, Nancy, Orleans, Amiens, and other cities.

In Lyons we find the Magnini Society, with a capital of 5,000,000 francs and buildings worth 6,000,000 francs. This organization dates back to 1886, and has never ceased to pay a dividend of 4 per cent. While the above organizations have been successful as a means of reducing the housing problems in various cities, and have taught the speculative builders a lesson in construction and management, the operations have been somewhat limited and of no great account as a competitive element in the housing market.

Following the example of the Peabody Foundation in England, the Rothschild Foundation, with a capital of 10,000,000 francs, was devoted to the construction of cheap sanitary houses. The activities of the Foundation were not to be limited to buildings alone. The scope of the Foundation embraced the purchase and rehabitation of old homes as well as the establishment of institutions and carrying on of activities tending directly or indirectly toward the improvement of housing conditions.

The Philanthropic Society of Paris dates back to the time of Louis XVI. This organization, with the assistance of the Heine and Goziz Foundations, has been able to build six structures affording homes for almost 1,000 people.

Both the Rothschild Foundation and the Philanthropic Society are self-perpetuating through the use of a limited dividend, which is devoted to further housing work.

The extent of the social-service work rendered in the Rothschild houses in Paris is strikingly in contrast with the little that we have been able to do in this country, even where cheap sanitary houses have been offered on a limited dividend basis. Aside from the day nursery, dispensary, lecture-courses for adults, and playrooms for children over six, the Foundation maintains a kitchen in which food of various kinds is sold to residents and non-residents at a very low cost. The food is intended for consumption in the home, and gives the families of the poor an opportunity to secure cheap food of good quality. Where the mother is compelled to work away from home the advantage of such a kitchen can hardly be overestimated.

The Weil Foundation, with a capital of 2,000,000 francs, was recognized as a public utility in 1905, and provides homes for clerks in banks and in commercial and industrial establishments. A much larger effort in the direction of improved housing is found in the Foundation called "Group of Workingmen's Homes" which has a capital of 10,000,000 francs, and is backed by wealthy philanthropists whose names have been withheld from the public.

Bertillon, the French statistician, pointed out the

* Villermé. Tableau de l'état physique et moral des ouvriers, 1840.

regrettable fact that the more numerous are the families of the poor, the less sanitary are their homes. A recent investigation in Paris strengthened the conviction that there is a special need for providing accommodations suitable for large families of wage-earners with small incomes. The "Corporation for Cheap Homes for Large Families" was organized for this purpose. The society built four structures at a cost of 2,300,000 francs, which accommodated 2,788 persons, 1,979 of which were children, or an average of five children to the family.

Passing from the strictly philanthropic organizations to those which derive their capital from savings organizations and other coöperative agencies, we find a very active movement in the direction of providing good homes which are mainly single dwellings.

The oldest organization of this type was established at Havre in 1870, under the leadership of Siegfried, the most influential statesman in France in the field of housing legislation. Starting with a capital of only 200,000 francs, this organization has, up to 1912, been able to build 117 little homes, averaging in cost 3,500 francs. The payments, including taxes and a dividend of 4 per cent, amount to a minimum of 250 francs and a maximum of 350 francs per annum, and the houses are calculated to be paid for in twenty years.

Similar organizations are to be found in Rouen, Lyons, Bordeaux, and Marseilles. In the homes of all the organizations it has been found that the death-rate is much lower than in the whole of the cities in which they are located. How far this is due to a selection of the tenants can hardly be estimated.

From the point of view of its economic effect upon the housing problem, and as a social factor tending to increase home ownership, the network of organizations that is constantly on the increase in France calls for special consideration.

At the end of December, 1911, the distribution of societies devoted to the construction of cheap and sanitary homes and the capital involved were as follows:*

*Henri Biget. Le Logement de l'Ouvrier. 1913. Page 27.

SOCIETIES.

	Stock	Coöperative	Real-Estate Credits	Total
	Francs	Francs	Francs	Francs
Capital	17,451,790	24,395,943	722,300	42,570,033
Loans	9,876,348	12,291,022	278,889	22,446,259
Land and Buildings	23,784,962	22,171,789	.....	45,956,711
Mortgages	2,549,672	459,410	22,356	3,231,438
Reserve funds required by law	181,656	92,793	300	274,749
Other reserve funds	1,073,653	507,877	.....	1,581,530
Expenses to be paid	80,803	65,656	1,564	148,023
Dividends	0–4%	0–4%	0–4%	0–4%

The foregoing table shows a greater capitalization among the coöperative societies than among the other two types of organizations. It is this type of housing organization which is finding its most ardent supporters both among the social reformers and among employers. As has been so well shown by Dr. Collin,* the coöperative system gives the workers a certain independence, insures an almost unlimited capital, provides a method of insuring an abode and a savings found for the family, and provides a dependable labor-supply in industrial centers.

The large sums of money invested in the charitable funds, and the growing popularity of the coöperative societies still leave the great problem of housing the poor, which involves not only the providing of sanitary accommodations for those who can pay a moderate rent, but the larger problem of abolishing the slums, which are constantly competing with the better houses provided by special funds and organizations. In other words, the work of removing the slums and improving the homes which are a menace to health, but not beyond rehabitation, still remains to be done.

Although, in 1841, a law was passed providing for the condemnation of property for public utilities, it was so hemmed in by restrictions, and the basis of compensation was so burdensome to the communities in which the condemnation was to be made, that no headway was made in the direction of condemning property for sanitary purposes.

It was not until 1912 that a law making it possible to condemn unsanitary houses was introduced. The efficiency of this law has not yet been tested, but it places the financial burden upon the community, which is exactly where it should be placed if the laws of the community or the municipality have allowed conditions detrimental to health to exist unabated for long periods of time.

It was not until 1902 that a general building code, as applied to housing, was passed. This code is, in many respects, inferior to our best American codes, and the machinery provided for its enforcement was wholly inadequate for the task which it was intended to accomplish.

On the whole, it may be said that the French laws relating to the control of the housing problem in its commercial aspect are inferior to those of Germany, and fall far short of many of the codes which are now in operation in the United States. If a lesson is to be learned from French housing reform, it is to be found in the constructive legislation intended to promote home-building under the most favorable

*Dr. Remy Collin: Les Foyers Nouveaux. 1912. Paris.

economic conditions. As far as the present situation is concerned, one is led to believe that the solution of the housing problem is at present dependent upon a process of elimination, applied to undesirable houses through the competition of those built under the favorable condition of the law of 1912. That this effort has so far failed to affect the very poor is very obvious from the many surveys that have recently been made in France, and which have revealed a continued increase in rents with a corresponding increase in congestion.

Legislation for Cheap Housing

Housing legislation for cheap houses dates back to 1894, when Siegfried shaped into law a project prepared by the general secretary of the Society for Cheap Homes, which had been in operation since 1889.

As an efficient means of promoting the construction of cheap homes, the law of 1894, and its amended form of 1896, was a complete fiasco. The experience resulting from an effort to enforce this law, however, proved the basis for further and more effective legislation which was passed in 1906, and amended in 1912. While the law of 1894 and 1896 was not a success, it embodied all the principles of all financial, insurance, and tax exemptions which the law of 1912 contains, but the administrative machinery, as in the case of the administration of sanitary laws, was completely a failure. It is interesting to note, that although throughout France the 1896 law was so recognized, the benefits bestowed upon builders under this law affected 8,102 buildings, only 1,306, or 16.1 per cent of which were multiple dwellings.

The Law of 1906

The 1906 law relating to cheap homes contained the following general provisions:

1. Easy credit facilities for builders.
2. Exemptions from taxation for builders and purchasers.
3. Insurance facilities against loss of property by death of heads of families.
4. Public offices are invested with the power to build homes.
5. Fixed maximum values of individual homes benefited by the law dependent upon the size of the community.

As it is the writer's belief that a very considerable share of the French law is needed and applicable to conditions in the United States, a more or less lengthy consideration of the law will be presented.

Administrative Machinery

The "*comité de patronage*" is a local departmental authority adopted by the 1906 law from that of 1894. There is a "*comité de patronage*" provided for each district or department, whose function is to investigate local conditions and devise ways and means of remedying existing evils. In addition, the *comité* certifies as to the character of buildings in favor of which application for tax exemption is made, and has complete control over all matters pertaining to loans, which are subject to the approval of the national governmental authority.

While this *comité* cannot become the owner of properties, it can administer properties which are recognized as public utilities.

As the fixing of maximum and minimum rental values of houses subject to exemption must be changed to meet market conditions, the *comité* of each department must meet once in six years to fix the maximum rental values for each community.

The *comité* settles disputes as to rental values of houses applying for tax exemptions or other aid; approves or disapproves of the constitutions and by-laws of organization for the building of cheap homes. It controls the operations of these organizations, and may stop their privileges if they do not conduct their work according to the letter and spirit of the law. The *comité* is charged with the responsibility of carrying on a local propaganda for housing reform.

These broad functions of the *comité* are under the supervision of a national council made up of forty-five members, six of whom are ex-officers charged with the administration of the work of this council, and are connected with the departments of the national government directly responsible for the work of enforcing the law and improving the health of the people. The other thirty-nine members of the national council are selected from among the most prominent and capable workers in the fields which directly bear upon the economic, sanitary, and esthetic aspects of housing reform. Special qualifications and connections with definite institutions are required in the case of every member of this council.

Facilities for Cheap Homes. Laws of 1906 and 1912

Broadly speaking, the facilities offered to builders and purchasers of cheap homes, by the laws of 1906 or 1912 were the same. Under certain restrictions, builders and purchasers can obtain loans from the departments or districts, the municipalities, the state, the reserve banks, and the savings banks. Relief agencies, asylums, and hospitals are also permitted and encouraged to invest in homes for workers or the poor.

These agencies can assist in the erection of homes either by building, by loans to organizations engaged in building, or in providing funds for building purposes; by becoming stockholders in building organizations, or by becoming responsible for the

obligation incurred by building or purchasing agencies. The charitable agencies are not permitted to deal with individuals.

The law of 1906 limited the amount of investment of the financing agencies to *one-fifth* of their total resources. The 1912 law increased the proportion to *two-fifths*.

The state, the municipalities, and the departments were authorized by the law of 1906, and again in 1912, to assist in the building of cheap and sanitary homes. The loans applied to any properties were conditional upon a clear 4 per cent dividend, and the paying off of all debts in thirty years for single dwellings, and six years for multiple dwellings.

The governmental agencies above mentioned may grant land for building purposes on condition that this land be properly appraised and paid for, and its value added to the estimated cost of the property, so that rental rates may not fall below 4 per cent on the whole.

Sometimes the governmental agencies are permitted to grant land to building societies, and charge a lower price than the actual value of the land, but this must not be less than half the actual value.

With the approval of the national department of labor, the governmental authorities may guarantee the interest on bonds when the funds are to be used for building purposes. In no case, however, may this guarantee exceed 3 per cent. In 1906 this guarantee could extend only over a period of ten years, but experience led to accepting a twenty-year period as provided in the law of 1912.

In some instances, the municipalities are permitted to encourage building organizations by granting them certain appropriations to be used for campaign and other purposes.

The results accomplished by the law of 1906, as amended in 1912, can hardly be estimated at this time. The methods and means of providing decent homes for at least the self-supporting classes of France seem to have been based mainly upon the principle that adequate financial resources are the most essential element of good housing. It must be said, however, that the record of accomplishment during the six years that preceded the law of 1912 is very discouraging.

Building by Governmental Agencies

Municipal Construction.

The freedom given to municipalities in matters of diverting funds for housing purposes has stimulated a movement in the direction of the municipal building. The city of Paris was the first to take a radical step in this direction by securing a bill allowing the issuance of bonds to the extent of 200,000,000 francs. This amount was to be used either in the form of loans not exceeding 3.8 per cent in returns, or in the acquisition and building of homes for the poorer classes of the population of Paris, and especially those with three or more children.

What Paris is endeavoring to do is bound to have its effect upon other cities. It is to be regretted that the municipalities are not permitted to build single dwellings, unless the following conditions have been fulfilled:

1. A public investigation of at least one month.
2. Permission from the departmental committee on hygiene.
3. Permission from the departmental committees of social insurance and housing.
4. The proposition must be submitted jointly by the secretaries [Ministers] of the Interior and Labor.

Funds for municipal building may be obtained from the various banking institutions in the manner outlined in the discussion of the loans obtained for building purposes by private organizations.

The guiding principle in the restrictions upon single dwellings is to be found in the desire to provide homes for the very poorest, and tenements are considered cheapest for this purpose. It is also evident that there was a desire on the part of the government to leave the field of individual homes so far as possible in the hands of private initiative and avoid governmental competition.

Beyond the activities of the municipalities, and the freedom given to financial institutions in the loan of funds for housing purposes, the national government has placed funds at 2 per cent at the disposal of private organizations engaged in the financing and building of homes. Provisions have also been made to encourage the ownership of small farm areas not exceeding ten acres.

It may be said of the housing movement in France that it represents the highest degree of economic legislation, and that from this point of view its problem is not far from an ideal solution. The sanitary control of old buildings, however, and the failure to handle the transportation problem in the manner best exemplified by Belgium, still leaves France in the background of the advancing movement for housing reform in Europe.

Notes from the Last Convention

Education

THE ASSOCIATION OF COLLEGIATE SCHOOLS OF ARCHITECTURE

The annual meeting of the Association, held in Washington just prior to the Convention of the Institute, was in effect a conference among the heads of architectural schools upon the problems peculiar to their work. For, while the Association was originally formed of the ten leading schools of architecture, its sessions are open to all others, for the discussion of questions of common concern. Thus the current meeting brought together representatives of the departments of architecture of Toronto University, both University and Agricultural and Mechanical College of Texas, Ohio State and Syracuse Universities (the last named being admitted to membership at this session), and the University of Minnesota, in addition to those of nine of the ten member-institutions, Cornell, Harvard, and Washington Universities, the Massachusetts and Carnegie Institutes of Technology, and the Universities of California, Illinois, Michigan and Pennsylvania. The full scope of the conference was assured by the presence also of representatives of the Institute's Committee on Education.

As at other sessions, various topics were considered, among them being a plan for foreign vacation travel-study which shall count toward the degree; a project which it is hoped to put into execution as soon as conditions abroad may permit. But quite the most important action taken was the adoption of a minimum standard of quality and content for architectural courses seeking admission to the Association. This standard, we believe, has been fixed at a reasonable level, and one quite within the reach of any institution whose authorities are determined to make their degree in architecture worthy the respect and confidence of the profession. Copies of the statement defining this standard may be had on application to the Secretary, Prof. Clarence A. Martin, of Cornell University. The existence of a defined minimum standard will, it is hoped, be of aid to many professors-in-charge in their efforts to procure improved teaching facilities or a better equipment.

The Association exists for the advancement of architectural education. The rapid increase in numbers of institutions giving degrees in this subject, and the absence of any recognized teaching ideal, has created the danger of inadequate or misdirected provision for such work, and this, we believe, will be checked through the existence of a well-defined and reasonable standard. The Association has great possibilities of usefulness, but if it should do no more than strengthen the hands of the many men now striving, with right aims but inadequate means, to build up worthy courses of instruction, it will have amply justified its existence.

WARREN P. LAIRD, *President.*

Contracts and Specifications

The report of the Standing Committee on Contracts and Specifications to the 48th Annual Convention, dealt chiefly with the revision of the Institute's Standard Form of Agreement and General Conditions. The chief changes proposed are (1) a simplification of language, (2) a reduction in the number of words from 7,500 to 4,500, (3) an arrangement by which, although general arbitration is provided, limits may be set by the architect using the form, and (4) a regulation of the relations between the contractor and his sub-contractors.

After the presentation of the report by Mr. Frank Miles Day, Chairman of the Standing Committee, President Sturgis called upon Mr. William Bruce King to address the Convention. Mr. King, a member of the bar, who had represented certain building interests in their conferences with the committee made a very luminous and convincing statement of the reasons for increasing the field of arbitration and for binding the sub-contractor to the principal contractor by regulations consonant with those that bind the principal contractor to the owner.

The Convention, upon considering the matter, authorized the Board of Directors to issue a second edition of the Institute's Standard Agreement, General Conditions and Bond in such words and form as the Board may approve. The Convention also authorized the issuance of certain other forms as a "Circular of Advice Relative to the Submission of Bids and Letting of Contracts," and it instructed the Standing Committee to prepare a form of agreement between owner and architect.

The Quantity System

G. ALEXANDER WRIGHT, Associate Editor

The interest in this subject has attained so great a degree, and the advantages to be derived from its adoption, provided a successful adaptation of the system may be worked out for this country (of which there seems not to be the slightest doubt), that the Journal proposes a department to be devoted to a general discussion. Mr. Wright has generously consented to assume the duty of editing, and inasmuch as he is the foremost and best-informed exponent of the Quantity System now in this country, it is fair to assume that the discussion will be helpful.

Contributions are invited from all sources and members of the profession, as well as manufacturers, and contractors are asked to express their opinions, whatever they may be.

As the best means of demonstrating the applicability and efficiency of the system, it is proposed to present the subject in an itemized way. When we asked Mr. Wright how such a presentation might best begin, he replied, "with the hole in the ground." There may be a preference for the word excavation, but the longer phrase is perhaps more descriptive, and it is with that title that the first suggested application of the Quantity System is offered to the readers of the Journal.

We think it safe to add, by way of further explanation of the Quantity System, that present methods of estimating are conceded to be uncertain and attended with risk to both parties to the contract.

Mr. Wright reports that quite recently, figures received from three reputable and able contractors, for excavating an area of 75 by 120 feet, varied 130 degrees between the highest and lowest, and 30 degrees between the lowest two. This is perhaps an unusual variation, but the difference of estimates generally received can scarcely be accounted for except by errors in estimating. The man who bids lowest is quite likely either to have forgotten some items, or to be ready to take a chance, which means later trouble and disappointment to both architect and owner as well as loss to himself. Under a proper survey of quantities, which is made the basis of the bid, both architect and owner have a fair chance of arriving at some really intelligent conclusion, which is all too rarely the case under present methods.

Every item in a structure is capable of being measured, or practically described.

At present *speed*, not accuracy, in estimating and excavating work is the chief aim; and many failures necessarily follow.

The Quantity System will not make a reorganization of architects' offices necessary, as is sometimes incorrectly stated, nor do we believe that it will impose a single hardship or work a single disadvantage to the honest contractor or manufacturer.

—Editor

"The Hole in the Ground"

It is intended to call attention briefly and simply to a few essential requirements of the Quantity System, which stands for "Safety first."

Let us take a structure, for example, 100 by 200 feet, with one or more basements, several stories high, and assume that the carcass or structural portion is to be let in one contract. A complete Bill of Quantities is furnished free to, and is used by, each bidder, who simply prices each item in the quantities. All these work up their estimate from the same basis or starting point.

First we read the General Conditions and Special Requirements, often taken for granted by some bidders.

We find that, among other items, each of the following will have to be provided by the contractor (and they all cost money), viz.: Permits, give notices, pay fees, fire insurance, general foreman, damage to work, watchman, lights, city ordinances, plant, *i. e.*, runways, staging, scaffolds, ladders and the like, hoisting, taking levels, protection of owner against damage suits, royalties, etc., temporary office, telephone, attendant or time-keeper, removing rubbish, street barricades, protecting the public, temporary sidewalks, workmen's toilet, water and other requirements probably. All should be priced by each bidder. Experience with similar work is the estimator's best guide. To include for such items in the unit prices, or percentage for profits, is but guesswork. Each should be calculated as closely as possible, and aim at accuracy. It is better for the estimator to be sure than sorry.

Second. Briefly, under "Excavation" the digging of the hole, etc., is to be included. This is comparatively simple. Yet, a way only too often adopted, because it is *so* easy, is to telephone several graders for a lump sum price, and then use the low man's figure; but this is "gambling"—not estimating. The architect can do this, and often does, thereby encouraging an undue segregation of contracts with its objection; for example, the increased detail work in the architect's office (which the mininum fee is insufficient to cover). A divided responsibility upon the building also occurs.

What are the quantities in relation to this hole in the ground? Ordinarily some bidders will decide

there are so many cubic yards all told, price the item, and the thing is done (in a way). But that is only what they think! It does not establish the fact, for their competitors may, and actually do, differ from them, sometimes 50 per cent or more. It is not so easy to arrive at a true cost, even of so simple a thing as a hole in the ground, for many elements affect it. Assuming the quantities and the character of each piece of work to be accurately determined, then experience and the office analysis of cost (if it has been systematically kept) should be a good guide, not an infallible one, however, for it is well known that *two* holes in the ground, for example, of the same size, in the same town, done by the same contractor would not necessarily cost the same money, nor even within 25 per cent of each other. Many things account for this—the surroundings, accessibility, character of the excavation, whether wet or dry, whether rock, sand, clay or earth. Each has its different unit value, while surface excavation possesses a different value from a similar soil dug several feet deep; circular excavation is worth more than straight, and so forth. Bulkheading, shoring, strutting, and pumping may be necessary, and these things cost money, and should be determined by the necessary "Quantity" of each. Who knows the quantity to figure upon under our present methods? No one for certain. Estimating, so called, becomes largely a competition guessing contest, in which bidders take chances. Usually one of two things happens—either the owner pays too much, or the contractor receives too little.

If the latter is to be paid according to the quantity and character of the excavation, then each class of work must be clearly segregated and described, as is the case in a properly regulated Quantity System. This requires that the site be surveyed, *datum* and levels established, borings made to determine the soil strata, water-level, etc., which would be indicated by a sectional drawing, all of which is essential to accurate quantities, and without which no accurate estimate can be made by anyone.

It is impossible in writing a few notes to cover the many ever-varying items met with in practice, and much is knowingly omitted here. The principles are given rather than a multitude of illustrations. The problems involved in the engineer's practice are not considered specially, but the same principles apply.

Everything tending to the elimination of chance is the special province of the Quantity System, and so, in place of the very brief but usually unsatisfactory conclusion of the lowest bidder, that the hole in the ground contains so many cubic yards, worth so much a yard, with the addition of some guesswork sum to cover "contingencies," we have a detailed Bill of Quantities, which might read somewhat as follows, viz.:

.... cubic yards. Excavating earth 5 feet deep, commencing 12 inches below surface, and haul away.....
.... cubic yards. Ditto. Hard clay 6 feet deep, commencing 6 feet below surface. Ditto.....
.... cubic yards. Ditto. Hard clay and gravel below water line 5 feet deep, commencing 12 feet below surface. Ditto, and include for pumping..
.... cubic yards. Ditto. Hard clay and gravel below water line in trenches for footings and pits 3 feet deep, commencing 17 feet below surface, ditto, ditto.....
.... superficial yards. Excavating vegetable soil over surface 12 inches deep, haul and deposit average distance..... yards.....
.... superficial yards. Furnish, spread, and tamp solid to slight grade 17 feet below surface of ground, a 5-inch layer of dry brick rubbish or similar hard material.....
.... lineal feet. Excavate trenches for pipes, 24 inches wide, 36 inches deep (average depth). Fill in when directed, tamp solid,and make good surface of ground at final completion, and haul away any surplus excavation.....
No .... Excavate earth in four pits, each 3 by 3 feet by 1 foot nine inches, deep, haul and deposit ....yards distant.....

The foregoing are a few suggestive wordings only. In some buildings there may be more items sufficient to cover many different values. Their quantities would be regulated also to suit local usage. The present need is the creation of uniform standards of measurements in all trades, possibly two standards, to cover different conditions which prevail in the eastern and western states respectively.

It is well known that in the larger and regularly systematized contractors' offices, the items of quantity are taken off with as much care and skill as is possible in a too limited time. These are the exceptions, however. Even so, each office is a law unto itself, following its own particular method of procedure and arrangement of bill. The Quantity System, when properly perfected in the United States, will necessitate the adoption of standard methods of taking off measurements and descriptions and general procedure, in order that every bidder may follow the same intelligently and without possibility of error.

Chapter and Other Activities

Admission to Practice*

THE PROPOSED LAW IN VICTORIA, NEW SOUTH WALES

The Act proposed for the admission of architects to practice in Victoria, New South Wales, is extremely comprehensive, and has evidently been framed with great care. It is impossible to print the whole act here, but copies may be had by writing to the Journal.

Among the provisions included are the following:

Constitution of Board

3. There shall be a Board to be called the Architects' Registration Board, of Victoria, consisting of seven persons, the first members of which shall be appointed by the Governor in Council, and shall hold office for one year.

Any vacancy caused by the death or retirement of any such member before the expiration of one year shall be filled by the appointment by the Governor in Council of a member to such office for the balance of the term.

Election and Appointment of Board.

4. After the first year, five of the members of the Board shall be Architects in practice, elected by the Architects whose names are in the register, and the other two shall be appointed by the Governor in Council, and the members so elected and appointed shall hold office for three years.

Provided that any person elected or appointed to fill a vacancy caused by the death or retirement of a member before the expiration of his term of office shall hold office only for the balance of such term.

Duties of Board.

6. The duties of the Board shall be as follows:

(*a*) Regulating the method of electing the elective members of the Board.

(*b*) Regulating their own proceedings.

(*c*) Regulating the conditions of admission to the Register of Architects, the issue of certificates, and the fees chargeable thereof.

(*d*) Regulating the course of training and the conduct of examination and the remunerations of examiners (if any).

(*e*) Defining the duties of Architects.

(*f*) Regulating the admission to the Register of the names of persons already in practice as Architects at the passing of this Act.

(*g*) Fixing the fees payable by persons registered, or applying to be registered or otherwise, and which shall not exceed £3 3s. [$15.00] per annum.

(*b*) Fixing the schedule of fees chargeable by Architects.

(7) Prescribing for the trial and suspension of any Architect, or the removal of his name from the Register, for disobeying the rules and regulations of the Board, or for any professional or other misconduct, and providing for the imposition of monetary penalties for such misconduct, and also for the restoration to the Register of the name of any Architect so removed.

8. Any Architect who is aggrieved by any decision of the Board directing the removal of his name from the Register may appeal therefrom to the Supreme or County Court, provided his application is made within six months after the notification of such decision to such Architect.

Qualifications for Registration.

9. Any person who claims to be registered under this Act may be so registered if such person:

(*a*) Hold some uncanceled recognized certificate, as hereinafter defined, and satisfies the Board of his good character. (The term "Recognized Certificate" means a certificate, diploma, degree, license, letters, testimonial, or other document of title, granted by some University, College, or other public or chartered institution, in a British possession or foreign country, which is recognized by the Board as entitling the holder thereof to practise architecture in such possession or country, and as furnishing sufficient guarantee of the requisite knowledge and skill for the efficient practice of Architecture); or

(*b*) Has attained the age of 23 years, and has for a period of one year before the passing of this Act been *bona fide* exclusively engaged in Victoria in the practice of Architecture, and has made application for registration to the Board within six months from the commencement of this Act;) or

(*c*) Has attained the age of 25 years, and has been exclusively engaged during a period of not less than

*During the discussion at the Convention, in December, of the Report of the Committee on Legislation, it was voted that the words "Registering" and "Licensing" were inappropriate as applying to laws intended to regulate the practice of architecture, and the words "Admission to Practice" were adopted as being more clearly descriptive and as consonant with the term employed in other professions. All future matter relative to this subject will hereafter appear in the Journal under the title of "Admission to Practice."—EDITOR.

seven years in the acquirement, in a manner deemed satisfactory by the Board, of professional knowledge of Architecture, and who has made application for registration to the Board within six months from the commencement of this Act; or

(*d*) Has attained the age of 25 years, and has been engaged during a period of not less than five years in the acquirement, in a manner deemed satisfactory by the Board, of professional knowledge in Architecture, and has passed an examination according to the prescribed regulations; or

(*e*) Has attained the age of 21 years, and shall have been a pupil or apprentice for a period of not less than four years to an Architect or Architectural practitioner entitled to be registered under this Act, and has had two years' further experience, to the satisfaction of the Board, and has passed an examination according to the prescribed regulations.

Fees and Financial Statement.

10. All fees and penalties shall be paid to the Board, who shall apply same toward the payment of expenses connected with the carrying out of the provisions of the Act, and payment of the salaries of the officers of the Board.

12. From and after the passing of this Act, no person shall take or use the name or title of Architect (either alone or in combination with any other word or words, save that only of Naval Architect), or any name, title, or description implying that he is registered under this Act, or leading to the belief that he is qualified to practise as an Architect as aforesaid, or shall practise as an Architect for reward, unless his name is duly registered in accordance with the Act. Any person offending against this section shall be liable to a penalty not exceeding £20 [$100.00] for every such offence, and to a further penalty of £1 [$5.00] for every day during which such offence is continued.

Penalties for Falsification of Register or Other Frauds on the Act.

16. The Board may, for the purposes of this Act, examine any person upon oath, or take from him a statutory declaration, and if any person wilfully makes any false statement upon such examination, or in such declaration, or utters, or attempts to utter, or put off as true before the Board, any false, forged, or counterfeit certificate, diploma, license, letter, testimonial, or other document or writing, he shall be guilty of a misdemeanor, and shall, on conviction, be liable to be imprisoned for any period not exceeding twelve months.

Standardization of Advertising Material

Following the announcement of the Institute in reference to the standard size of 8½ x 11 inches, various interests throughout the country have offered their service by way of coöperating with this movement. The Journal is authorized to state that the committee having this matter in charge has so far not adopted any method of classification or indexing. It believes that this matter can only be worked out intelligently by a committee qualified for the purpose. It is suggested that advertisers would do well to correspond with the Journal before arranging to coördinate their advertising literature with any of the various systems which may be offered.

The Work of the Committee on City Department of the New York Chapter

This committee consists of nine Chapter members and is a part of the "Joint Committee on City Departments," composed of representatives of the Building Trades Employers' Association, the American Institute of Consulting Engineers, the Brooklyn Chapter, the New York Board of Fire Underwriters, the National Board of Fire Underwriters, the New York Society of Architects, and the New York Chapter; the Chapter representation being by far the largest on the committee. This committee, during the year, has been, as usual, active in many matters, sub-committees having studied the question of a Board of Appeals for the Tenement House Department, the question of efficiency and economy in the enforcement of laws and regulations of public departments, with particular reference to inspections and approval of plans and specifications, the standardization of the rules and regulations of various departments, and the recommending of necessary legislation in the interest of efficiency and economy. The committee also considered the question of the control of the heights of buildings and the districting or zoning of New York City, and favored the appointment of a Commission on Building Districts and Restrictions. The committee also recommended that all powers

affecting the control of building construction be centered in one department. In addition to its other activities, the committee is responsible for the suggestion that the editing of the proposed Building Code be placed in the hands of Mr. Rudolph Miller, with the result that this Code is now being prepared by Mr. Miller, who is meeting frequently with the joint committee to submit advance copies of sections of the Code for discussion. The new Code is being presented section by section to the Board of Aldermen for passage.

Fire Prevention

Fire Tests on Metal-Lath Partitions

Copy of a recent report of fire and water tests, made at the Columbia Testing Station, New York, has been received by the committee.

The test was conducted by James S. Macgregor, M. S., of Columbia University, on July 17, 1914, on metal-lath partitions erected by the Associated Metal Lath Manufacturers.

Metal-lath-plastered partitions generally have not been classified by fire-prevention experts as being equal to the ordinary brick or terra-cotta-block partitions; but, from certain tests, it would appear they are very efficient for some particular conditions, although there is grave doubt whether they ever will be considered as affording what is known as "Full Protection," according to the standard of the National Fire Protection Association or the British Fire Prevention Committee.

Ordinary brick or terra-cotta-block partitions, from tests reported, seem to withstand from 1,700 degrees F. (100 minutes to 2,000 degrees F.) four hours, as against metal lath which, from reports, appears to vary from 1,200 degrees for 28 minutes, to 1,700 degrees for one and one-half hours.

The above figures are derived from certain tests made in England by the British Fire Prevention Committee.

In 1904, Prof. Ira H. Woolson made tests at Columbia University of metal-lath-plastered partitions which show approximately 1,670 degrees F. for two hours.

A very elaborate set of tests was made at Cleveland in 1914, under the direction of Mr. Virgil D. Allen, City Inspector of Buildings, which showed about 1,700 degrees F. for two hours.

Mr. Macgregor's tests at Columbia University above referred to showed 1,700 degrees for four hours. This is truly a remarkable showing, but it would not be advisable to give too much credit to metal-lath-plastered partitions because of this one test. Judgment should be suspended until more tests are made and details and specifications are worked out, as more depends upon the workmanship and material of this kind of partition than of the ordinary brick or fireproof block partitions.

On this subject, it is worth mentioning that the Underwriters' laboratories in Chicago are preparing to make a series of tests for partitions as follows:

First. Partitions for the inclosure of vertical communications through buildings.

Second. Partitions for the division of the area of fireproof buildings.

Third. Corridor and room partitions.

It appears to be the opinion of the chief engineer of the laboratories that the metal-lath partition, constructed in accordance with proper specifications, would probably qualify under the third classification.—JULIUS FRANKE, *Chairman, Committee on Fire Prevention.*

Inspecting Fire Hazards

What is Said to be the Most Important Publication Ever Issued by the National Fire Protection Association.

The Committee on Field Practice of the National Fire Protection Association has completed its two years' work in the compilation of an inspection manual. This publication is called "Field Practice" to distinguish it from an ordinary fire-protection handbook, from which it differs radically in function. It is designed to point out the common faults in equipments, and those points of deterioration difficult for inexperienced persons to discover, with methods and suggestions for their remedy. It is, in its potential usefulness, the most important publication which the National Fire Protection Association has ever complied.

The Association has published a list of its pamphlets, standards, bulletins, and fire reports, which will be sent on application to the Secretary, 87 Milk Street, Boston, Mass. [*From the circular issued by the Association.*]